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Reports of *Agathidium* from Central Nepal and North India: expeditions 1979 and 1981 of Geneva Natural History Museum (Coleoptera, Leiodidae)

by

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With 117 figures

ABSTRACT

Descriptive and/or collecting data are presented on 1347 specimens, 38 species, of *Agathidium* from Himalaya, recently collected by Dr. I. Löbl and Dr. A. Smetana in Nepal, Kumaon and Garhwal.

New species: *A. coloratum n. sp., A. kumaonicum* n. sp., *A. longum* n. sp., *A. sudra* n. sp., *A. newari* n. sp., *A. smetanai* n. sp., *A. kali* n. sp., *A. barahbisense* n. sp., *A. bagmaticum* n. sp., *A. visnu* n. sp., *A. fulgens* n. sp., *A. siva* n. sp., *A. ishvara* n. sp., *A. rufifrons* n. sp., *A. dobaticum* n. sp., *A. tenebricosum* n. sp., *A. tibiale* n. sp., *A. rama* n. sp., *A. brahma* n. sp.

New records: *A. apterum* Ang. & Dmz. and *A. pusillum* Ang. & Dmz. from Nepal; *A. kashmirense* Ang. & Dmz. from Kumaon; *A. kashmirense* Ang. & Dmz. and *A. laticorne* Port. from Garhwal.

A. maculicolle Champ. is redescribed.

There are figured: male hind femur and copulatory organ of *A. shermathangense* Ang. & Dmz., *A. microreticulatum* Ang. & Dmz., *A. apterum* Ang. & Dmz., *A. thochungense* Ang. & Dmz. and *A. pusillum* Ang. & Dmz.; spermatheca of *A. caelebs* Ang. & Dmz.

2 species, new ones, of subg. *Neoceble* are, for the first time, recorded from Himalaya.

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INTRODUCTION

The following expeditions promoted by the Geneva Museum have yielded 1347 specimens, 38 species, of *Agathidium* from Himalaya:

— expedition of Löbl & Smetana, 31.III-10.V.1981, 1060 specimens, 35 species, from 28 localities in Central Nepal;
— expedition of Löbl, 4.X-15.X.1979, 127 specimens, 3 species, from 6 localities in Kumaon;
— expedition of Löbl, 17.X-30.X.1979, 160 specimens, 2 species, from 7 localities in Garhwal.

This conspicuous material widely improves knowledges on the Himalayan Agathidium by providing:

— 19 new species (18 from Nepal, 1 from Kumaon);
— 2 new records from Nepal;
— 1 new record from Kumaon;
— 2 new records from Garhwal;
— 2 species of subg. *Neoceble* (only species of subg. *Agathidium s. str.* were known hitherto from Himalaya);
— male or females of certain species, of which only the other sex was known;
— 1 specimen of *A. maculicolle* Champ., used here to redescribe this species.

The specimens are deposited in Geneva Museum (GM) and Angelini collection (AC). 1 specimen of *A. kumaonicum* n. sp. has been collected by Prof. H. Franz in Kumaon. Included are the data on further 31 specimens belonging to 4 new species (*A. sudra* n. sp., *A. newari* n. sp., *A. fulgens* n. sp., *A. dobaticum* n. sp.) taken by Drs. P. Cassagnau (expedition X.1981) and A. & Z. Smetana (expedition 23.III-22.IV.1982).

Our sincerest thanks to Dr. C. Besuchet for the loan of the precious material and the generous assistance in editing the present paper.

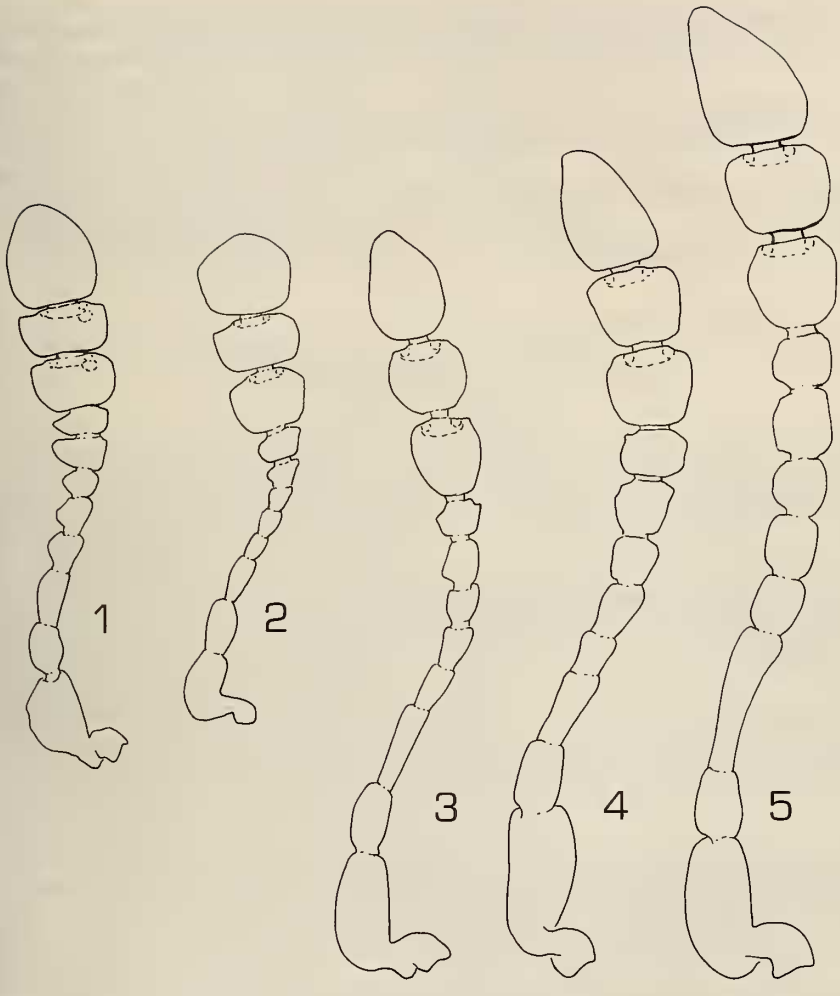
Agathidium (Neoceble) coloratum n. sp.
Figs. 1, 6, 10, 14, 15

Length 2,15 mm (holotype ♂). Dorsum black, testaceous at sides of pronotum, reddish at sides and apex of elytra; venter of head and abdomen reddish-brown, mesosternum testaceous, metasternum black; antennae testaceous with segments 7-11 black; legs dark reddish-brown, with paler tarsi. Microreticulate only on elytra. Whole dorsum finely and sparsely punctate.

Head: punctuation fine and sparse: punctures moderate in size, and moderately impressed, spaced from each other by 4-5 times their own diameter. Clypeal line very fine and superficial, scarcely distinct. 3rd antennal segment 1,2 times as long as the 2nd and shorter than 4th + 5th (fig. 1). Hamann's organ: gutter with one vesicle in both 9th and 10th antennal segments.

Pronotum: Punctures as large as on head, spaced from each other by 5-8 times their own diameter. 1,4 times as broad as head, moderately broader than long (W/L = 1,75) and moderately convex (W/H = 1,64). Anterior margin moderately bent (fig. 6). Lateral outline truncate (fig. 10). Holotype: length 0,58 mm, width 1,02 mm, height 0,62 mm.

Elytra: Microreticulation superficial but uniform. Punctures much larger and more superficial than on head, spaced from each other by 3-6 times their own diameter. A little



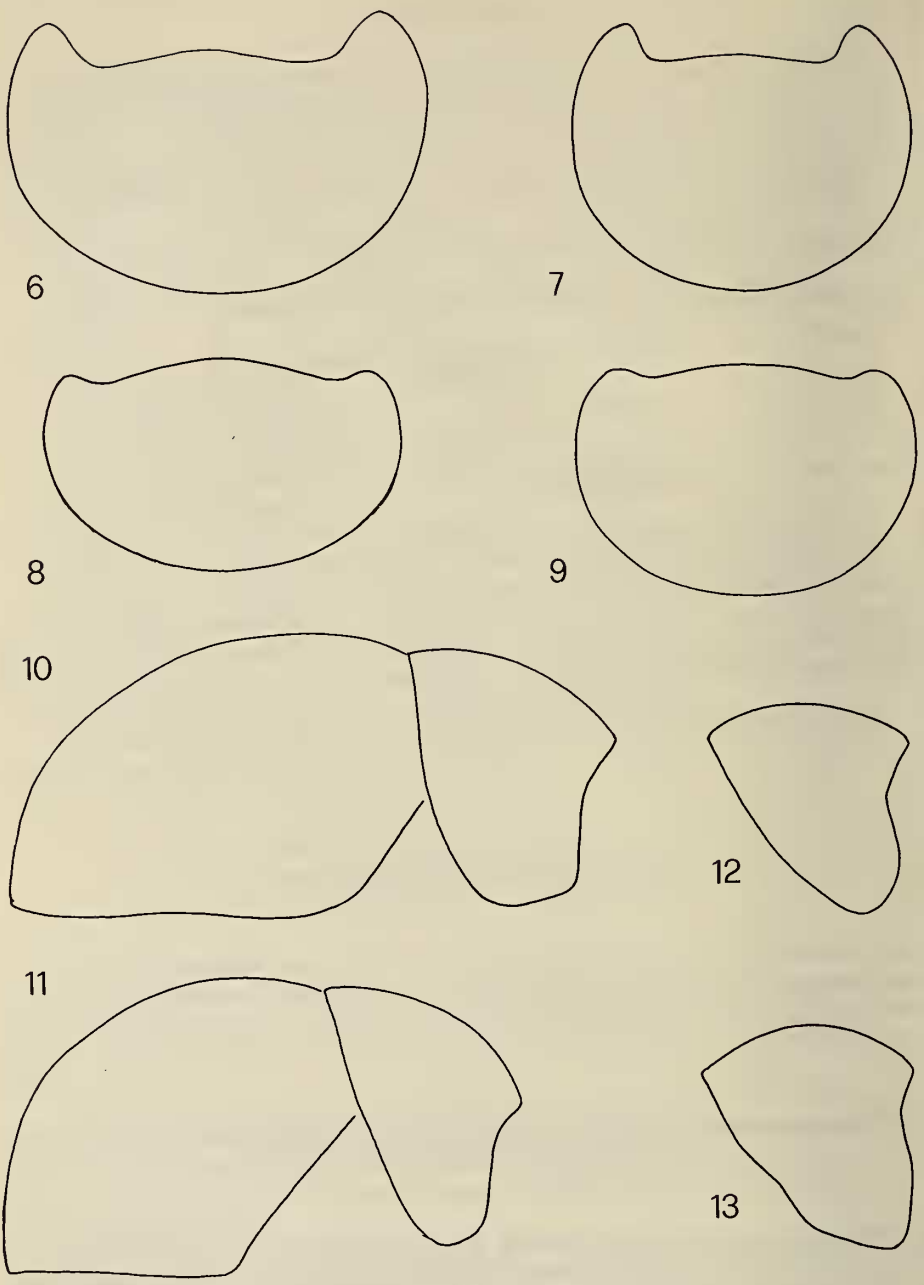
FIGS 1-5.

Antenna of: 1, *A. coloratum* n. sp.; 2, *A. kumaonicum* n. sp.; 3, *A. shermathangense* Ang. & Dmz.; 4, *A. newari* n. sp.; 5, *A. apterum* Ang. & Dmz.

broader than pronotum, nearly as broad as long (W/L = 1,1) and moderately convex (W/H = 1,61). Lateral outline with strong humeral angle (fig. 10). Sutural striae strong, within the apical half. Holotype: length 1,05 mm, width 1,16 mm, height 0,72 mm.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines complete, femoral lines absent.

Legs: Tarsal formula ♂ 5-5-4, ♀ unknown.



FIGS 6-13.

Dorsal outline of pronotum and lateral outline of elytra and/or pronotum of: 6, *A. coloratum* n. sp.; 7, *A. kumaonicum* n. sp.; 8, *A. sudra* n. sp.; 9, *A. smetanai* n. sp.; 10, *A. coloratum* n. sp.; 11, *A. kumaonicum* n. sp.; 12, *A. longum* n. sp.; 13, *A. sudra* n. sp.

Male copulatory organ (figs 14-15): Aedeagus slender, with proximal part simple, lateral margin parallel and approached into a small rounded tip, ventral piece indistinct; parameres comparatively robust, a little increased at apex; phallobase embracing the aedeagus near the proximal end.

Discussion: *A. coloratum* n. sp. differs from the other *Neoceble* from Southern Asia (*A. turkestanicum* Hlisn., and *A. kumaonicum* n. sp.) by the presence of microreticulation only on elytra.

Type: NEPAL, Dobate Ridge, N/E Barahbise, 3000 m, 7.V.1981, Löbl & Smetana, 1 ♂ holotype N.2501 in GM.

Collecting methods: Sifting decaying fir-trees and mosses in forest.

Agathidium (Neoceble) kumaonicum n. sp.
Figs 2, 7, 11, 16, 17

Length 1,9-2,0 mm (holotype ♂ 1,95 mm). Dorsum uniformly black or reddish-brown; venter dark-reddish-brown, paler on mesosternum; antennae testaceous, with black club; legs reddish-brown or testaceous. Microreticulation absent. Whole dorsum finely and sparsely punctate.

Head: Punctuation fine and regular: punctures moderately large, scarcely impressed, spaced from each other by 2-4 times their own diameter. Clypeal line distinct at sides but vague medially; one dimple is present at each side of the clypeus. 3rd antennal segment as long as the 2nd and as 4th + 5th (fig. 2). Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as large and impressed as on head, spaced from each other by 4-8 times their own diameter. 1,5 times as broad as head, moderately broader than long (W/L = 1,47) and moderately convex (W/H = 1,7). Anterior margin scarcely bent (fig. 7). Lateral outline nearly angulate (fig. 11). Holotype: length 0,59 mm, width 0,87 mm, height 0,51 mm.

Elytra: Punctures as large, impressed and spaced as on pronotum; long, rectilinear lines are interposed. Very much broader than pronotum, a little broader than long (W/L = 1,17) and very convex (W/H = 1,4). Lateral outline with strong humeral angle (fig. 11). Sutural striae strong, exceding the apical half. Holotype: length 0,92 mm, width 1,08 mm, height 0,77 mm.

Metathoracic wings present. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines absent.

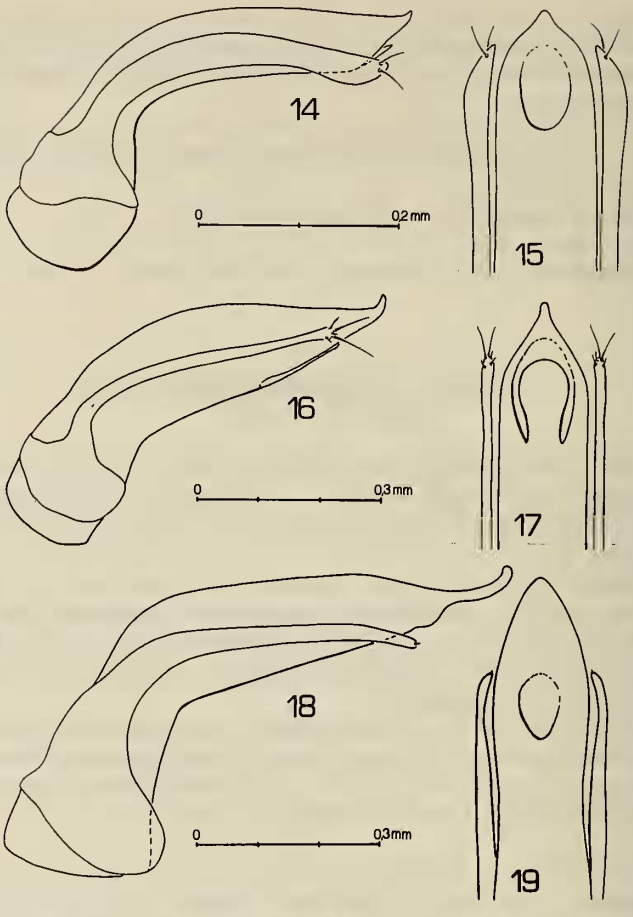
Legs: Tarsal formula ♂ 4-4-4, ♀ unknown.

Male copulatory organ (figs 16-17): Aedeagus robust, with proximal part simple, lateral margins subparallel and approached into a small, protruding tip; ventral piece indistinct (an unarticulate sclerified lamellar piece is present); parameres very thin, a little increased at apex, here with 4-5 setae; phallobase embracing the aedeagus near the proximal end.

Discussion: *A. kumaonicum* n. sp. is separated from *A. coloratum* n. sp. and *A. turkestanicum* Hlisn. by the total absence of microreticulation.

Types: INDIA, Kumaon (Uttar Pradesh), Rangarh, 2250 m, 9.X.1979, Löbl, 1 ♂ holotype N.2502 in GM, 1 ♂ paratype N. 2503 in AC. Kashmir, Aru, X.1977, Franz, 1 ♂ paratype N.2420 in Franz collection.

Collecting methods: Sifting litter at base of rhododendrons (specimens from Kumaon); dry environment near the mountain ridge.



FIGS 14-19.

Male copulatory organ (lateral view and ventral view of apex) of: 14-15, *A. coloratum* n. sp.; 16-17, *A. kumaonicum* n. sp.; 18-19, *A. shermathangense* Ang. & Dmz.

Agathidium (s. str.) **shermathangense** Ang. & Dmz.
Figs 3, 18, 19, 46

Agathidium (s. str.) *shermathangense* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 250.

Agathidium (s. str.) *shermathangense:* ANGELINI & DE MARZO 1984b, *Annls Hist. nat. Mus. natn. hung.,* 76: 165.

Material: NEPAL, over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 1 specimen in GM; Dobate Ridge, N/E Barahbise, 3000 m, 7.V.1981, Löbl & Smetana, 4 specimens in GM, 2 specimens in AC.

Collecting methods: Sifting dead leaves, ferns and mosses in oak-forest and at base of rhododendrons and fir-trees.

Discussion: *A. shermathangense* Ang. & Dmz. was described on the basis of an unic specimen ♀. Tarsal formula ♂: 5-5-4. Antenna: fig. 3; male hind femur: fig. 46; male copulatory organ: figs 18-19. Some of the new specimens show dorsum black, reddish-brown at sides of pronotum, and very superficial microreticulation; nearly absent on head; the same specimens show a distinct punctuation, with moderately large and very superficial punctures, spaced from each other by 1-4 times their own diameter. The specimens reddish-brown at dorsum (not fully sclerotized) agree with the description of the holotype. One male, out of ten, bear tooth on the left mandible. Length range: 2,2-2,7 mm.

Agathidium *(s. str.)* **longum** n. sp.
Figs 12, 20, 21, 26

Length 2,8 mm (holotype ♂ and paratype ♀). Dorsum uniformly reddish-brown; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Microreticulate only on elytra. Punctate only on head.

Head: Punctures very small and sparse, spaced from each other by 2-8 times their own diameter. Clypeal line absent. 3rd antennal segment 1,5 times as long as the 2nd and longer than 4th + 5th. Hamann's organ: gutter with one vesicle in both 9th and 10th antennal segments.

Pronotum: Punctuation nearly absent (only some very small punctures). 1,3 times as broad as head, moderately broader than long (W/L = 1,53) and very convex (W/H = 1,5). Anterior margin scarcely bent. Lateral outline nearly angulate (fig. 12). Holotype: length 0,90 mm, width 1,38 mm, height 0,92 mm.

Elytra: Microreticulation uniform and regular, moderately impressed but distinct. Punctuation absent. As broad as pronotum, a little broader than long (W/L = 1,12) and moderately convex (W/H = 1,68). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,20 mm, width 1,35 mm, height 0,80 mm.

Metathoracic wings absent. Meso- and metasternum: median carina slight, lateral lines absent, meso e metacoxae in touch.

Legs: Male hind femora simple. Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

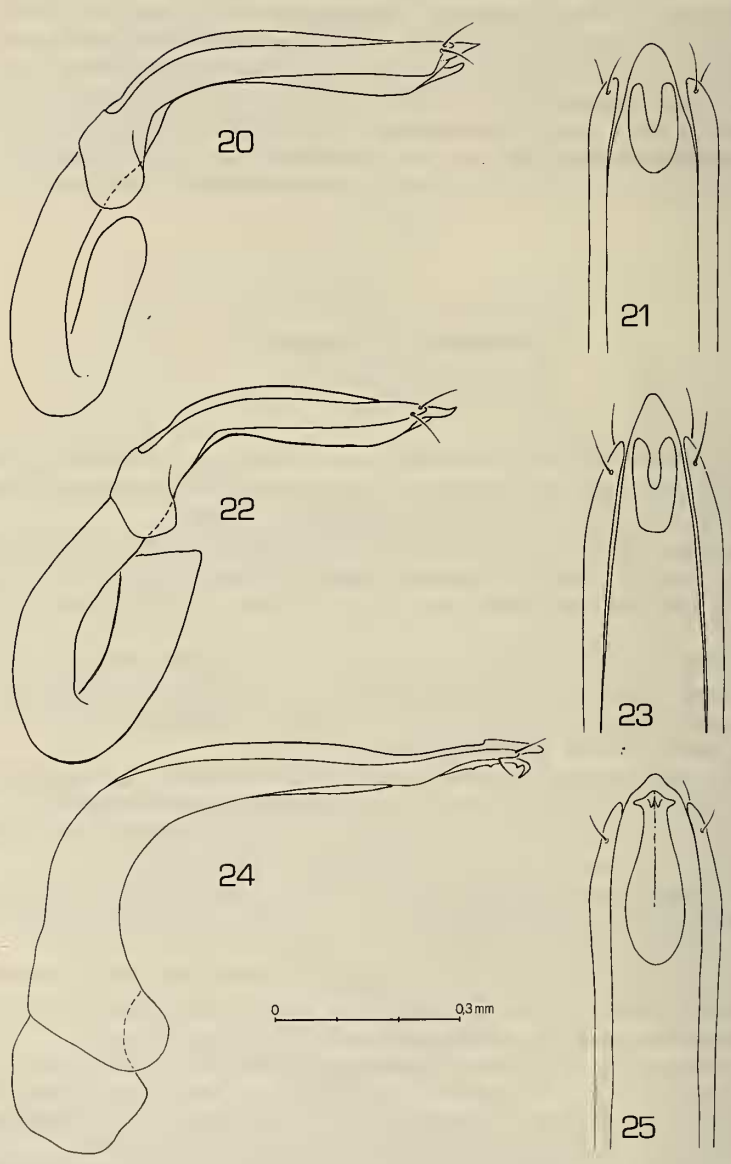
Male copulatory organ (figs 20-21): Aedeagus slender, with hook-like proximal part, lateral margins parallel and approached into a broadly rounded tip, bifid ventral piece; parameres robust, a little increased at apex.

Spermatheca (fig. 26): Basal part pear-shaped, apical part slender and twisted.

Discussion: *A. longum* n. sp. is close to *A. breve* Ang. & Dmz. in habitus, colouring, antennal characters and lateral outline of pronotum. Clear differences between these species concern the lateral outline of the male copulatory organ.

Types: Nepal, Dobate Ridge, N/E Barahbise, 3000 m, 7.V.1981, Löbl & Smetana, 1 ♂ holotype N.3000 in GM; Yangri Ridge, 4200 m, 21.IV.1981, Löbl & Smetana, 1 ♀ paratype N.3001 in AC.

Collecting methods: Sifting dead leaves of juniperus, Lonicera and rhododendron, decaying fir-trees and mosses.



FIGS 20-25.

Male copulatory organ (lateral view and ventral view of apex) of: 20-21, *A. longum* n. sp.; 22-23, *A. sudra* n. sp.; 24-25, *A. newari* n. sp.

Agathidium *(s. str.)* **sherpa** Ang. & Dmz.

Agathidium (s. str.) *sherpa* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 272-274.

Material: NEPAL, Phulcoki, south of Kathmandu, 2300 m, 10.V.1981, Löbl & Smetana, 4 specimens in GM, 2 specimens in AC.

Collecting methods: sifting dead leaves and tree branches at base of oak-trees and shrubs.

Remarks: The new specimens are similar, in all characters, to the types.

Agathidium *(s. str.)* **sudra** n. sp.
Figs 8, 13, 22, 23, 27, 47

Length 2,8-3,25 mm (holotype ♂ 3,0 mm). Dorsum dark reddish-brown or uniformly black; venter reddish-brown; antennae uniformly testaceous; legs reddish-brown. Microreticulation absent. Whole dorsum finely and sparsely punctate.

Head: Punctures very small, spaced from each other by 3-10 times their own diameter. Clypeal line absent. 3rd antennal segment 1,8 times as long as the 2nd and as long as 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as on head, spaced from each other by 8-10 times their own diameter. 1,3 times as broad as head, moderately broader than long (W/L = 1,64) and very convex (W/H = 1,47). Anterior margin scarcely bent (fig. 8). Lateral outline nearly angulate (fig. 13). Holotype: length 0,95 mm, width 1,56 mm, height 1,06 mm.

Elytra: Punctures a little larger than on head, very superficial, spaced from each other by 5-10 times their own diameter. A little less broad than pronotum, a little broader than long (W/L = 1,13) and scarcely convex (W/H = 1,92). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,32 mm, width 1,50 mm, height 0,78 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, meso- and metacoxae nearly in touch.

Legs: Male hind femora simple (fig. 47). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 22-23): Aedeagus slender, with hook-like proximal part, lateral margins gently approached into a rounded tip, bifid ventral piece; parameres robust, tapered at apex.

Spermatheca (fig. 27): Basal and apical parts not much different in caliber, the latter twisted.

Discussion: *A. sudra* n. sp. is close to *A. sherpa* Ang. & Dmz., *A. brancuccii* Ang. & Dmz. and *A. caelebs* Ang. & Dmz.; from *A. sherpa* it differs in the female tarsal formula, from *A. brancuccii* and *A. caelebs* in the larger size.

Types: NEPAL, Dobate Ridge, N/E Barahbise, 2800 m, 2.V.1981, Löbl & Smetana, 1 ♂ holotype N.3004, 8 ♂ and 3 ♀ paratypes N. 3005-3015 in GM, 2 ♂ and 2 ♀ paratypes N.3016-3019 in AC; Khandbari, Forest N/E Kuwapani, 2500 m, 28.III.1982, A. & Z. Smetana, 2 ♂ paratypes N.5150, 5151 in GM; same collecting data, 11.IV.1982, 8 ♂ paratypes N.5137-5144 in GM, 2 ♂ and 2 ♀ paratypes N.5145-5148 in AC; same collecting data, 12.IV.1982, 1 ♂ paratype N.5149 in GM.

Collecting methods: Sifting dead leaves, mosses and decaying wood in oak-forest with rhododendrons.

Agathidium *(s. str.)* **brancuccii** Ang. & Dmz.

Agathidium (s. str.) *brancuccii* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 269-272.
Agathidium (s. str.) *brancuccii:* ANGELINI & DE MARZO 1983, *Entomol. basiliensia* 8: 153.
Agathidium (s. str.) *brancuccii:* ANGELINI & DE MARZO 1984a, *Revue suisse Zool.* 91: 547.

Material: NEPAL, Dobate Ridge, N/E Barahbise, 2800 m, Löbl & Smetana, 2.V.1981, 7 specimens in GM, 3 specimens in AC; same collecting data, 2700 m, 3 specimens in GM, 1 specimen in AC; same collecting data, 3000 m, 7.V.1981, 4 specimens in GM, 1 specimen in AC; same collecting data, 2700 m, 3 specimens in GM, 1 specimen in AC.

Collecting methods: Sifting dead leaves, mosses and decaying wood in oak-trees, rhododendrons and fir-trees forests.

D i s c u s s i o n : Some of the new specimens differ from the types in coloration (uniformly reddish-brown) and aedeagus apex.

Agathidium *(s. str.)* **caelebs** Ang. & Dmz.
Fig. 28

Agathidium (s. str.) *caelebs* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 268-269.

Material: NEPAL, Malemchi, 2800 m, 16.IV.1981, Löbl & Smetana, 1 specimen in GM; over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 4 specimens in GM, 2 specimens in AC; Phulcoki, south of Kathmandu, 2300 m, 10.V.1981, Löbl & Smetana, 1 specimen in GM.

Collecting methods: Sifting dead leaves, decaying wood and ferns in oak-tree, fir-tree and rhododendron forests.

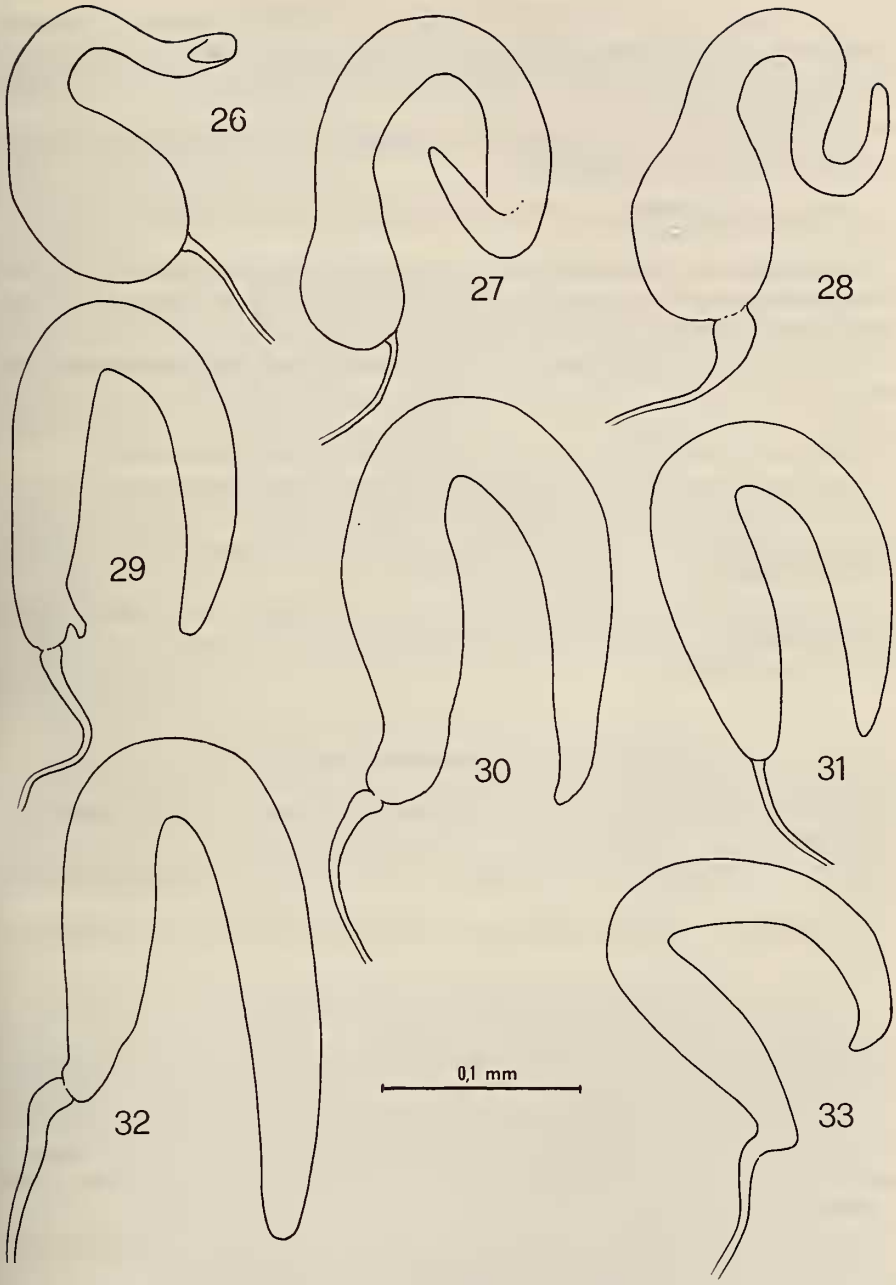
D i s c u s s i o n : We knew only 5 males of this species. Tarsal formula ♀: 5-4-4. Spermatheca: fig. 28. The new specimens do not differ from the types in colouring and punctuation characters. Length range: 2,0-2,6 mm.

Agathidium *(s. str.)* **newari** n. sp.
Figs 4, 24, 25, 48

Length 2,9-3,2 mm (holotype ♂ 2,9 mm). Dorsum uniformly reddish-brown; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Microreticulation absent. Whole dorsum distinctly and regularly punctate.

Head: Punctures moderately large and impressed, spaced from each other by 4-5 times their own diameter. Clypeal line absent. Anterior lateral margins rimmed. 3rd antennal segment 1,2 times as long as the 2nd and shorter than 4th + 5th (fig. 4). Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as large and impressed but more regularly spaced from each other (by 4-5 times their own diameter). 1,5 times as broad as head, moderately broader than long (W/L = 1,42) and very convex (W/H = 1,44). Anterior margin scarcely bent. Lateral outline broadly rounded. Holotype: length 1,00 mm, width 1,42 mm, height 0,98 mm.



FIGS 26-33.

Spermatheca of: 26, *A. longum* n. sp.; 27, *A. sudra* n. sp.; 28, *A. caelebs* Ang. & Dmz.; 29, *A. smetanai* n. sp.; 30, *A. kali* n. sp.; 31, *A. barahbisense* n. sp.; 32, *A. bagmaticum* n. sp.; 33, *A. visnu* n. sp.

Elytra: Punctuation as on pronotum; long, superficial lines are interposed. A little less broad than pronotum, as broad as long and moderately convex (W/H = 1,66). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,30 mm, width 1,33 mm, height 0,80 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora with weak tooth at the posterior margin (fig. 48). Tarsal formula: ♂ 5-5-4, ♀ unknown.

Male copulatory organ (figs 24-25): Aedeagus slender, with simple proximal part, lateral margins sinuate and approached into a small rounded tip; ventral piece arrow-like and hooked at apex; parameres slender, gently tapered towards apex.

Discussion: *A. newari* n. sp. is close to *A. crassum* Ang. & Dmz. and *A. darjeelingense* Ang. & Dmz.; from the latter it differs by presence of punctuation and absence of metathoracic wings; from *A. crassum* it differs by lateral outline of pronotum and aedeagus shape; from both of them it differs in shape of male hind femura.

Types: NEPAL, Dobate Ridge, N/E Barahbise, 2800 m, 2.V.1981, Löbl & Smetana, 1 ♂ holotype N.3039 in GM; same collecting data, 2700 m, 7.V.1981, 1 ♂ paratype N.3040 in GM, 1 ♂ paratype N.3041 in AC: Khandbari, forest N/E Kuwapani, 2600 m, 15.IV.1982, A. & Z. Smetana, 1 ♂ paratype N.5152 in GM.

Collecting methods: Sifting dead leaves, mosses and decaying wood in oak-forest with rhododendrons.

Agathidium *(s. str.)* **subopacum** Ang. & Dmz.

Agathidium (s. str.) *subopacum* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 227-228.

Agathidium (s. str.) *subopacum:* ANGELINI & DE MARZO 1983*a*, *Senckenberg. biol.*, 64: 161.

Agathidium (s. str.) *subopacum:* ANGELINI & DE MARZO 1983*b*, *Entomol. basiliensia* 8: 156.

Material: NEPAL, Malemchi, 2900 m, 14.IV.1981, Löbl & Smetana, 10 specimens in GM, 4 specimens in AC; same collecting data, 2800 m, 14.IV.1981, 3 specimens in GM, 1 specimen in AC; same collecting data, 16.IV.1981, 4 specimens in GM, 2 specimens in AC; Tarke Ghyang, 2750 m, 19.IV.1981, Löbl & Smetana, 25 specimens in GM, 5 specimens in AC; over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 13 specimens in GM, 4 specimens in AC; Phulcoki, south of Kathmandu, 2500 m, 10.V.1981, Löbl & Smetana, 2 specimens in GM, 1 specimen in AC; same collecting data, 2300 m, 3 specimens in GM, 1 specimen in AC.

Collecting methods: Sifting dead leaves, mosses, decaying wood, grasses, humus and ferns, in forests of oak-trees, chestnuts, rhododendrons and fir-trees.

Discussion: *A. subopacum* Ang. & Dmz. was described on the basis of two types; subsequently, additional data and drawings on males were given (ANGELINI & DE MARZO 1983*a*). Some of the new specimens have less impressed microreticulation and show a very fine and sparse punctuation. Length range: 2,9-3,3 mm.

Agathidium *(s. str.)* **francae** Ang. & Dmz.

Agathidium (s. str.) *francae* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 224-226.
Agathidium (s. str.) *francae:* Angelini & De Marzo 1983, *Senckenberg. biol.* 64: 159.

Material: Nepal, Phulcoki, south of Kathmandu, 2500 m, 10.V.1981, Löbl & Smetana, 10 specimens in GM, 4 specimens in AC; same collecting data, 2300 m, 7 specimens in GM, 2 specimens in AC.

Collecting methods: Sifting dead leaves, grasses, humus and decaying tree branches in oak-forest.

Discussion: The new specimens confirm previous comments (Angelini & De Marzo 1983*a*) on the variability of coloration and punctuation in this species. In some specimens the microreticulation is absent on head discum and pronotum. Female elytra are usually more strongly microreticulate than in males. Length range: 2,8-3,1 mm.

Agathidium *(s. str.)* **microreticulatum** Ang. & Dmz.
Figs 34, 35, 49

Agathidium (s. str.) *microreticulatum* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 226-227.

Material: Nepal, below Thare Pati, 3500 m, 12.IV.1981, Löbl & Smetana, 3 specimens in GM, 1 specimen in AC; Yangri Ridge, 4500 m, 23.IV.1981, Löbl & Smetana, 3 specimens in GM, 1 specimen in AC.

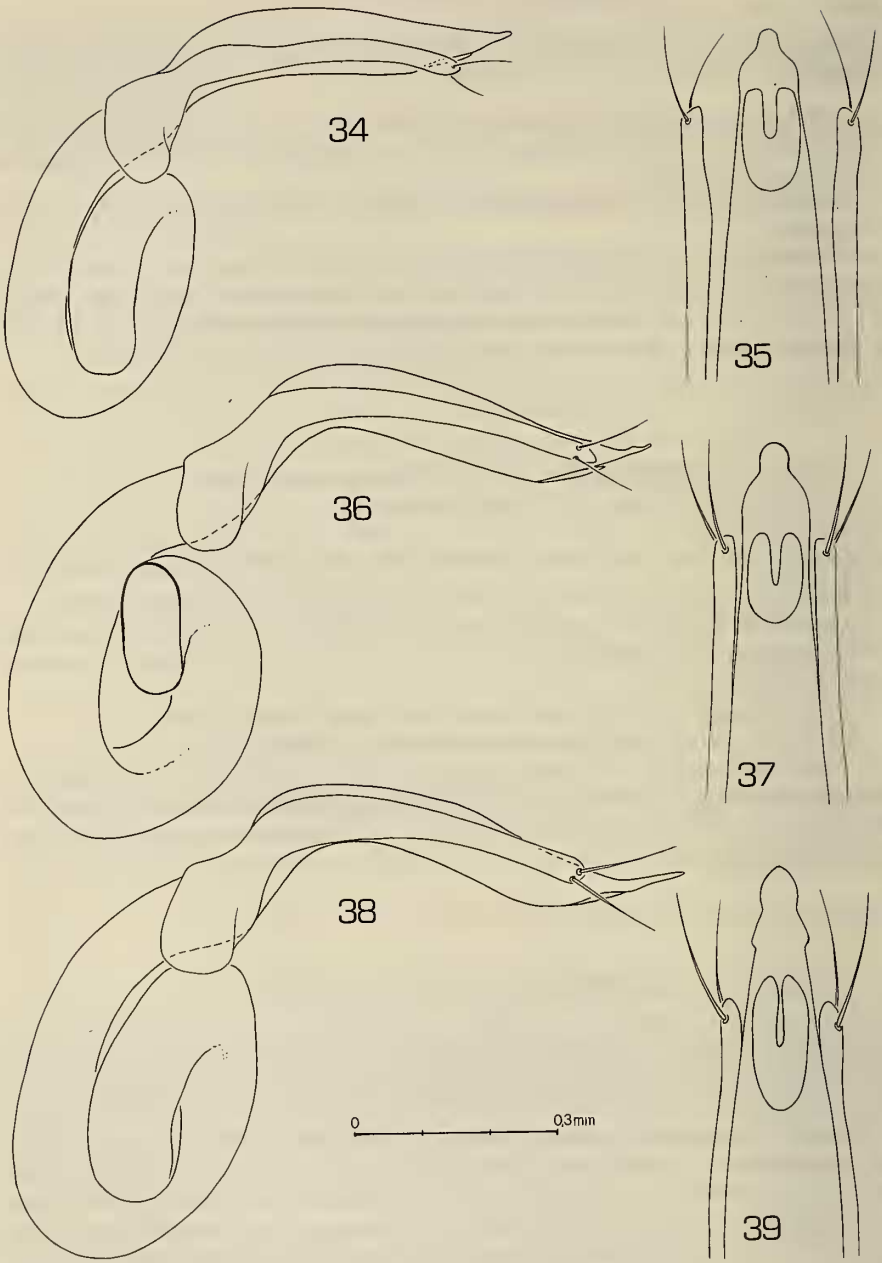
Collecting methods: Sifting dead leaves and mosses in maple forest.

Discussion: We knew only one specimen ♀ of this species. Tarsal formula ♂: 5-5-4. Male hind femur: fig. 49; male copulatory organ: figs 34-35. In the new specimens the dorsum is uniformly reddish-brown and antennae are uniformly testaceous. The microreticulation of head discum can be as strong as on pronotum or nearly absent. Length range: 2,75-3,15 mm.

Agathidium *(s. str.)* **nivale** Ang. & Dmz.

Agathidium (s. str.) *nivale* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 223-224.
Agathidium (s. str.) *nivale:* Angelini & De Marzo 1983*a*, *Senckenberg. biol.* 64: 159.
Agathidium (s. str.) *nivale:* Angelini & De Marzo 1983*b*, *Entomol. basiliensia* 8: 156.

Material: Nepal, over Chaubas, 2600 m, 5.IV.1981, Löbl & Smetana, 2 specimens in GM, 1 specimen in AC; below Thare Pati, 3300 m, 10.IV.1981, Löbl & Smetana, 2 specimens in GM; Malemchi, 2800 m, 14.IV.1981, Löbl & Smetana, 2 specimens in GM; Dobate Ridge, N/E of Barahbise, 2700 m, 2.V.1981, Löbl & Smetana, 16 specimens in GM, 5 specimens in AC; same collecting data, 2800 m, 19 specimens in GM, 6 specimens in AC; same collecting data, 7.V.1981, 3000 m, 6 specimens in GM, 1 specimen in AC; Yardang Ridge, N/E of Barahbise, 3250 m, Löbl & Smetana, 5.V.1981, 8 specimens in GM, 2 specimens in AC; Dobate Ridge, N/E of Barahbise, 2700 m, 7.V.1981, Löbl & Smetana, 5 specimens in GM, 2 specimens in AC.



FIGS 34-39.

Male copulatory organ (lateral view and ventral view of apex) of:
34-35, *A. microreticulatum* Ang. & Dmz.; 36-37, *A. smetanai* n. sp.; 38-39, *A. kali* n. sp.

Collecting methods: Sifting dead leaves, mosses, ferns, grasses and decaying wood, in forests of rhododendrons, oak-trees, fir-trees and maples.

Discussion: Some specimens are uniformly reddish-brown at dorsum; others are uniformly black. Often, head and pronotum lack microreticulation, whereas elytra are strongly microreticulate, opaque, in females, very superficially and partly microreticulate, smooth, in most males. The length range reaches 3,3 mm.

Agathidium *(s. str.)* **smetanai** n. sp.
Figs 9, 29, 36, 37

Length 2,75-3,45 mm (holotype ♂ 3,15 mm). Dorsum black, with sides of pronotum reddish-brown or testaceous; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Whole dorsum with distinct and regular microreticulation. Punctate only on head and pronotum.

Head: Microreticulation distinct and regular but superficial. Punctuation very irregular: punctures very small and superficial, spaced from each other by 1-3 times their own diameter, indistinct in the specimens more strongly microreticulate. Clypeal line absent or vague; one slight dimple at each side of clypeus. 3rd antennal segment 1,7 times as long as the 2nd and as long as 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulation as on head. Punctuation more sparse than on head, indistinct in the specimens more strongly microreticulate. 1,4 times as broad as head, moderately broader than long (W/L = 1,38) and very convex (W/H = 1,44). Anterior margin scarcely bent (fig. 9). Lateral outline broadly rounded. Holotype: length 0,98 mm, width 1,52 mm, height 1,05 mm.

Elytra: Microreticulation uniform, stronger than on head and pronotum. Punctuation absent. As broad as pronotum, as broad as long and moderately convex (W/H = 1,74). Lateral outline with slight humeral angle. Sutural striae vague, within the apical third. Holotype: length 1,46 mm, width 1,50 mm, height 0,86 mm.

Metathoracic wings absent. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines complete.

Legs: Male hind femora simple. Tarsal formula: ♂ 5-5-4, ♀ 4-4-4.

Male copulatory organ (figs 36-37): Aedeagus slender, with ring-like proximal part, lateral margins gently convergent and then abruptly approached into a small hemispherical tip; ventral piece bifid; parameres slender, gently tapered towards apex.

Spermatheca (fig. 29): Basal and apical parts slender, similar in length and caliber.

Discussion: *A. smetanai* n. sp. is close to *A. microreticulatum* Ang. & Dmz., *A. nivale* Ang. & Dmz., *A. kali* n. sp. and *A. castaneum* Ang. & Dmz.; from *A. microreticulatum* it differs because its pronotum is less strongly microreticulate; from *A. nivale* it differs because the pronotal microreticulation is uniform; from *A. kali* and *A. castaneum* there are only vague differences in the external features, so that the examination of male copulatory organ and spermatheca is necessary to separate these three species.

Types: Nepal, Mere Dara, 3000 m, 7.IV.1981, Löbl & Smetana, 1 ♂ holotype N.2504, 4 ♂ and 6 ♀ paratypes N.2505-2514 in GM, 2 ♂ and 2 ♀ paratypes N.2515-2518 in AC; Mere Dara, 3200 m, 8.IV.1981, Löbl & Smetana, 5 ♂ and 6 ♀ paratypes N.2519-2529 in GM, 2 ♂ and 2 ♀ paratypes N.2530-2533 in AC; below Thare Pati, 3300 m, 9.IV.1981, Löbl & Smetana, 3 ♂ and 2 ♀ paratypes N.2532-2535, 5529 in GM, 1 ♂ paratype N.2536

in AC; same collecting data, 10.IV.1981, 9 ♂ and 4 ♀ paratypes N.2537-2549 in GM, 2 ♂ and 2 ♀ paratypes N.2550-2553 in AC; same collecting data, 11.IV.1981, 1 ♂ and 2 ♀ paratypes N.2554-2556 in GM, 1 ♂ paratype N.2557 in AC; same locality, 3500 m, 12.IV.1981, Löbl & Smetana, 16 ♂ and 17 ♀ paratypes N.2558-2590 in GM, 6 ♂ and 5 ♀ paratypes N.2591-2601 in AC; Yangri Ridge, 4350 m, 22.IV.1981, Löbl & Smetana, 5 ♂ and 5 ♀ paratypes N.2602-2611 in GM, 2 ♂ and 1 ♀ paratypes N.2612-2614 in AC; same locality, 4700-4800 m, 22.IV.1981, Löbl & Smetana, 6 ♂ and 2 ♀ paratypes N.2615-2622 in GM, 2 ♂ and 1 ♀ paratypes N.2623-2625 in AC; same locality, 4500 m, 23.IV.1981, Löbl & Smetana, 12 ♂ and 10 ♀ paratypes N.2626-2647 in GM, 4 ♂ and 3 ♀ paratypes N.2648-2654 in AC; Dobate Ridge, N/E of Barahbise, 2700 m, 2.V.1981, Löbl & Smetana, 4 ♂ and 2 ♀ paratypes N.2655-2660 in GM, 1 ♂ and 1 ♀ paratypes N.2661-2662 in AC.

Collecting methods: Sifting mosses on tree trunks, on rocks or on the ground; sifting dead leaves, ferns or decaying wood in forests of maples, rhododendrons, junipers, fir-trees, *Lonicera* and oak-trees.

Agathidium *(s. str.)* **kali** n. sp.
Figs 30, 38, 39, 71, 75

Length 3,1-3,6 mm (holotype ♂ 3,3 mm). Dorsum of head and pronotum reddish-brown, elytra darker or black; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Microreticulation superficial on head and pronotum, stronger on elytra. Punctuation fine and sparse on head and pronotum, absent on elytra.

Head: Microreticulation superficial on discum, more impressed near eyes. Punctures small and superficial, spaced from each other by 1-4 times their own diameter. Clypeal line absent. One slight dimple at each side of clypeus. 3rd antennal segment 1,6 times as long as the 2nd and as long as 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulation superficial but more impressed and regular than on head and pronotum. Punctures as large as on head but sparser. 1,4 times as broad as head, moderately broader than long (W/L = 1,63) and moderately convex (W/H = 1,75). Anterior margin scarcely bent (fig. 70). Lateral outline broadly rounded (fig. 75). Holotype: length 1,55 mm, width 1,6 mm, height 0,98 mm.

Elytra: Strongly and uniformly microreticulate, opaque in some paratypes. Punctuation absent. A little less broad than pronotum, as broad as long and scarcely convex (W/H = 2,1). Lateral outline with slight humeral angle. Sutural striae impressed, within the apical half. Holotype: length 1,55 mm, width 1,60 mm, height 0,76 mm.

Metathoracic wings absent. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines complete.

Legs: Male hind femora simple. Tarsal formula: ♂ 5-5-4, ♀ 4-4-4.

Male copulatory organ (figs 38-39): Aedeagus slender, with spiral-like proximal part, lateral margins gently convergent and sinuate towards apex, bifid ventral piece; parameres robust, gently tapered towards apex.

Spermatheca (fig. 30): Basal and apical parts slender, nearly alike in length, differing in caliber.

Discussion: *A. kali* n. sp. is close to *A. castaneum* Ang. & Dmz., from which it is separable only on the basis of male copulatory organ and spermatheca characters. See also what noted for *A. smetanai* (p. 48).

Types: NEPAL, below Thare Pati, 3300 m, 10.IV.1981, Löbl & Smetana, 1 ♂ holotype N.2662, 1 ♂ and 6 ♀ paratypes N.2663-2669 in GM, 1 ♂ and 2 ♀ paratypes N.2670-2672 in AC; same locality, 9.IV.1981, Löbl & Smetana, 1 ♂ paratype N.2673 in GM; same locality, 3500 m, 12.IV.1981, Löbl & Smetana, 1 ♂ and 2 ♀ paratypes N.2674-2676 in GM, 1 ♂ paratype N.2677 in AC; Yangri Ridge, 4350 m, 22.IV.1981, Löbl & Smetana, 1 ♂ paratype N.2678 in GM; same locality, 4500 m, 23.IV.1981, Löbl & Smetana, 1 ♂ paratype N.2679 in GM, 1 ♂ paratype N.2680 in AC.

Collecting methods: Sifting dead leaves, mosses, ferns and grasses in forests of maples, junipers and Lonicera.

Agathidium *(s. str.)* **apterum** Ang. & Dmz.
Figs 5, 40, 41, 50

Agathidium (s. str.) *apterum* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 232-233.

Material: NEPAL, over Gul Bhanjyang, 2600 m, 6.IV.1981, Löbl & Smetana, 2 specimens in GM, 1 specimen in AC; Malemchi, 2900 m, 14.IV.1981, Löbl & Smetana, 2 specimens in GM, 1 specimen in AC; same locality, 2800 m, 16.IV.1981, Löbl & Smetana, 2 specimens in GM; Dobate Ridge, N/E of Barahbise, 2800 m, 2.V.1981, Löbl & Smetana, 2 specimens in GM; same locality, 2700 m, 7.V.1981, Löbl & Smetana, 2 specimens in GM, 1 specimen in AC; Phulcoki, south of Kathmandu, 2300 m, 10.V.1981, Löbl & Smetana, 1 specimen in GM, 1 specimen in AC.

Collecting methods: Sifting dead leaves, mosses and decaying wood in forest of oak-trees, rhododendrons, chestnut-trees and fir-trees.

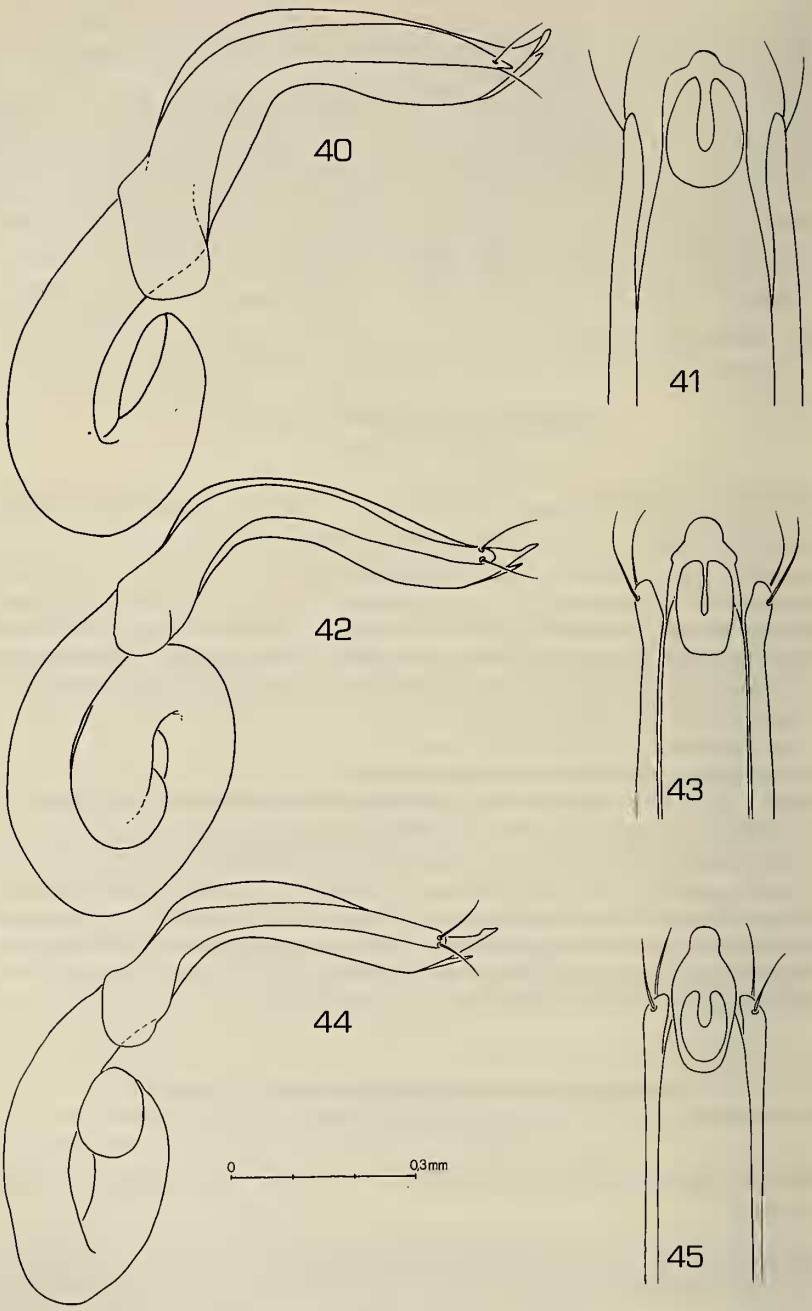
Discussion: The new material includes males of this species, of which only 3 ♀ were known. Tarsal formula ♂: 5-5-4; antenna: fig. 5; male hind femur: fig. 50; male copulatory organ: figs 40-41. Some specimens are uniformly black at dorsum; they show double punctuation on head and pronotum: the larger punctures are rather impressed, spaced from each other by 2-6 times their own diameter; the secondary punctures are very small, spaced from each other by 2-6 times their own diameter. Most females show elytral microreticulation more impressed than in males. Length range: 2,8-3,5 mm.

New record from Nepal, known hitherto of Darjeeling.

Agathidium *(s. str.)* **thochungense** Ang. & Dmz.
Figs 42, 43, 51

Agathidium (s. str.) *thochungense* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 222-223.

Material: NEPAL, over Gul Bhanjyang, 2600 m, 6.IV.1981, Löbl & Smetana, 5 specimens in GM, 2 specimens in AC; Malemchi, 2800-2900 m, 14.IV.1981, Löbl & Smetana, 20 specimens in GM, 5 specimens in AC; same locality, 2800 m, 16.IV.1981, Löbl & Smetana, 11 specimens in GM, 3 specimens in AC; Tarke Ghyang, 2750 m, 19.IV.1981, Löbl & Smetana, 3 specimens in GM, 1 specimen in AC; over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 11 specimens in GM, 3 specimens in AC.



FIGS 40-45.

Male copulatory organ (lateral view and ventral view of apex) of: 40-41, *A. apterum* Ang. & Dmz.; 42-43, *A. thochungense* Ang. & Dmz.; 44-45, *A. barahbisense* n. sp.

Collecting methods: Sifting dead leaves, grasses, mosses, decaying wood and ferns in forests of rhododendrons, oak-trees, chestnut-trees and fir-trees.

Discussion: The new material includes some males of this species, of which we knew only 2 females. Tarsal formula ♂: 5-5-4. Male copulatory organ: figs 42-43; male hind femur: fig. 51. Some specimens show dorsum uniformly reddish-brown or black and lack traces of microreticulation on head; the punctuation is similar to that of the types. In most females the elytral microreticulation is stronger than in males. Length range: 2,7-3,2 mm.

Agathidium *(s. str.)* **barahbisense** n. sp.
Figs 31, 44-45

Length 2,75-3,1 mm (holotype ♂ 2,75 mm). Dorsum black, reddish at sides of pronotum; venter reddish-brown, paler on mesosternum; antennae testaceous, with segments 9-11 darker; legs reddish-brown. Microreticulate only on elytra. Punctate only on head and pronotum.

Head: Punctures very small, sparse, superficial, spaced from each other by 2-8 times their own diameter. Clypeal line absent. 3rd antennal segment 1,7 times as long as the 2nd and as long as 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures a little larger and more impressed than on head, sparse. 1,4 times as broad as head, moderately broader than long (W/L = 1,59) and moderately convex (W/H = 1,64). Anterior margin scarcely bent. Lateral outline broadly rounded. Holotype: length 0,91 mm, width 1,45 mm, height 0,88 mm.

Elytra: Microreticulation superficial in the holotype and male paratypes; in females it is superficial near the scutellum but stronger in the apical half. Punctuation nearly absent (only some superficial punctures). As broad as pronotum, a little broader than long (W/L = 1,22) and moderately convex (W/H = 1,77). Lateral outline with slight humeral angle. Sutural striae slight, within the apical third. Holotype: length 1,16 mm, width 1,42 mm, height 0,80 mm.

Metathoracic wings absent. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora with weak distal tooth at the posterior margin. Tarsal formula: ♂ 5-5-4, ♀ 4-4-4.

Male copulatory organ (figs 44-45): Aedeagus slender, with ring-like proximal part, lateral margins approached into a small hemispherical tip, bifid ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 31): Basal and apical parts nearly alike in length, the former larger in caliber.

Discussion: *A. barahbisense* n. sp. is related to *A. bagmaticum* n. sp., *A. glaciale* Ang. & Dmz. and *A. fulungense* Ang. & Dmz. by several characters. Its distinctive characters concern the male copulatory organ.

Types: Nepal, Yardang Ridge, N/E of Barahbise, 3250 m, 5.V.1981, Löbl & Smetana, 1 ♂ holotype N.2681 and 5 ♀ paratypes N.2682-2686 in GM, 2 ♂ and 1 ♀ paratypes N.2687-2689 in AC.

Collecting methods: Sifting in forest of fir-trees and rhododendrons.

Agathidium *(s. str.)* **bagmaticum** n. sp.
Figs 32, 59, 60, 76

Length 2,7-3,3 mm (holotype ♂ 3,1 mm). Dorsum black, reddish at sides of pronotum; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous or with dark club; legs testaceous. Microreticulate only on elytra. Punctuation fine and dense on head and pronotum, only some very small punctures on elytra.

Head: Punctuation dense and distinct: punctures very small but impressed, spaced from each other by 1-2 times their own diameter. Clypeal line absent. 3rd antennal segment 1,8 times as long as the 2nd and shorter than 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as large but sparser than on head. 1,4 times as broad as head, moderately broder than long (W/L = 1,77) and moderately convex (W/H = 1,55). Anterior margin scarcely bent. Lateral outline broadly rounded (fig. 76). Holotype: length 0,92 mm, width 1,63 mm, height 1,05 mm.

Elytra: Microreticulation very superficial near the scutellum but gradually stronger towards apex, very much stronger in females. As broad as pronotum, a little broader than long (W/L = 1,14) and moderately convex (W/H = 1,81). Lateral outline with slight humeral angle. Sutural striae strong, within the apical half. Holotype: length 1,40 mm, width 1,60 mm, height 0,88 mm.

Metathoracic wings absent. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines complete.

Legs: Male hind femora simple. Tarsal formula: ♂ 5-5-4, ♀ 4-4-4.

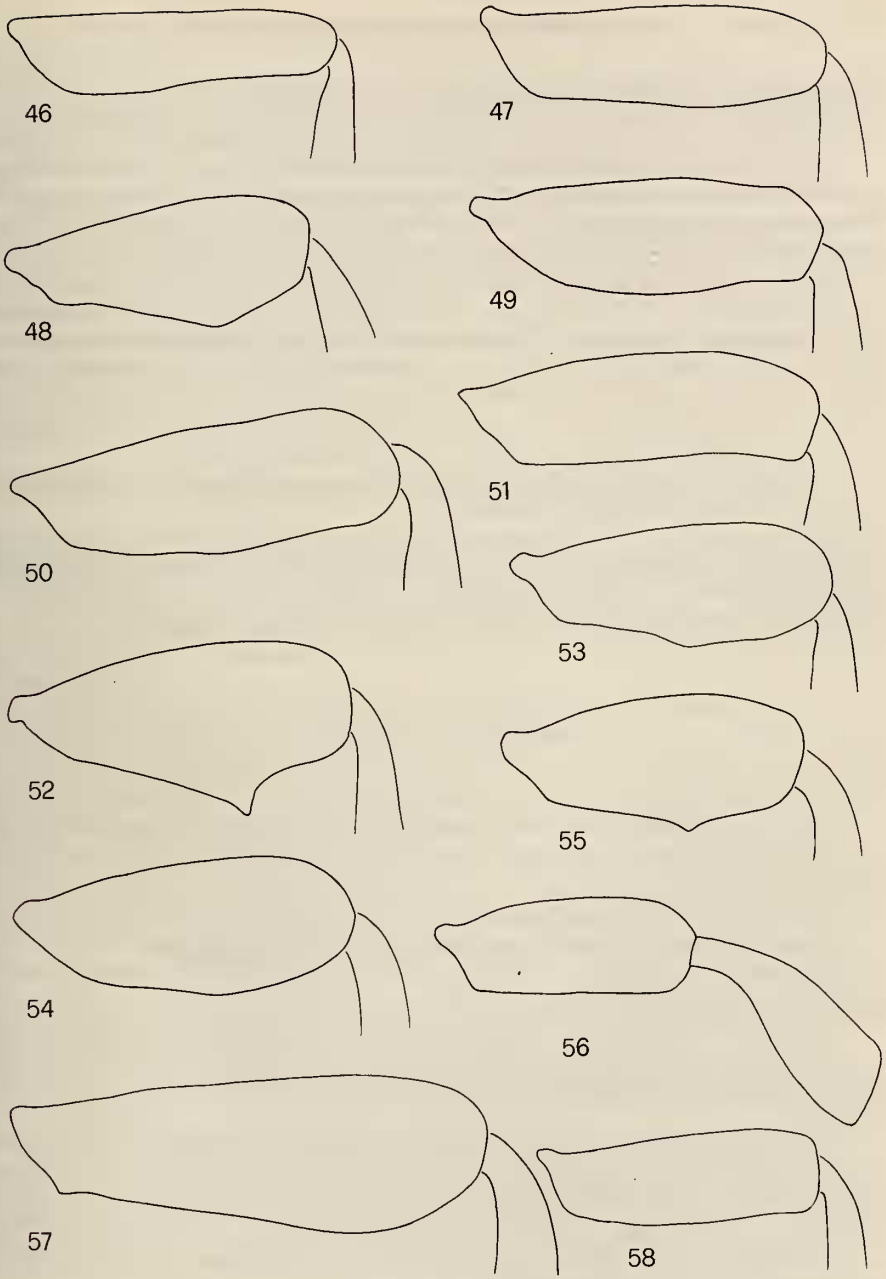
Male copulatory organ (figs 59-60): Aedeagus slender, with ring-like proximal part, lateral margins strongly sinuate towards apex and approached into a small hemispherical tip; bifid ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 32): Basal and apical parts slender, the latter longer.

Discussion: *A. bagmaticum* n. sp. is close to *A. glaciale* Ang. & Dmz. and *A. fulungense* Ang. & Dmz. by several characters. The main distinctive characters concern the male copulatory organ.

Types: Nepal, Yandri Ridge, 4350 m, 22.IV.1981, Löbl & Smetana, 1 ♂ holotype N.2690, 4 ♂ and 13 ♀ paratypes N.2691-2707 in GM, 3 ♂ and 2 ♀ paratypes N.2708-2712 in AC; same locality, 4200 m, 21.IV.1981, Löbl & Smetana, 2 ♂ paratypes N.2713-2714 in GM; same locality, 4500 m, 23.IV.1981, Löbl & Smetana, 2 ♂ and 4 ♀ paratypes N.2715-2720 in GM, 1 ♂ and 1 ♀ paratypes N.2721-2722 in AC; Yangri Ridge, Yangri, 4150 m, 24.IV.1981, Löbl & Smetana, 1 ♂ and 2 ♀ paratypes N.2723-2725 in GM, 1 ♀ paratype N.2726 in AC; 1 ♂ over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 3 ♂ paratypes N.2727-2729 in GM; Mere Dara, 3200 m, 8.IV.1981, Löbl & Smetana, 3 ♂ and 3 ♀ paratypes N.2730-2735 in GM, 1 ♂ and 1 ♀ paratypes N.2736-2737 in AC; below Thare Pati, 3300 m, 9.IV.1981, Löbl & Smetana, 5 ♂ and 6 ♀ paratypes N.2738-2748 in GM, 2 ♂ and 2 ♀ paratypes N.2749-2752 in AC; same collecting data, 11.IV.1981, 1 ♂ and 1 ♀ paratypes N.2753-2754 in GM, 1 ♀ paratype N.2755 in AC; same locality, 3500 m, 12.IV.1981, Löbl & Smetana, 3 ♂ and 6 ♀ paratypes N.2756-2764 in GM, 3 ♂ and 1 ♀ paratypes N.2765-2768 in AC.

Collecting methods: Sifting mosses and grasses on rocks; sifting dead leaves, mosses, ferns and grasses in forests of rhododendrons, maples, junipers, oak-trees and *Lonicera.*



FIGS 46-58.

Male hind femur of: 46, *A. shermathangense* Ang. & Dmz.; 47, *A. sudra* n. sp.; 48, *A. newari* n. sp.; 49, *A. microreticulatum* Ang. & Dmz.; 50, *A. apterum* Ang. & Dmz.; 51, *A. thochungense* Ang. & Dmz.; 52, *A. fulgens* n. sp.; 53, *A. siva* n. sp.; 54, *A. ishvara* n. sp.; 55, *A. rufifrons* n. sp.; 56, *A. tibiale* n. sp.; 57, *A. maculicolle* Champ.; 58, *A. rama* n. sp.

Agathidium *(s. str.)* **kashmirense** Ang. & Dmz.

Agathidium (s. str.) *kashmirense* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 238.
Agathidium (s. str.) *kashmirense:* ANGELINI & DE MARZO 1983c, *Entomologica* 18: 9.

Material: INDIA, Kumaon (Uttar Pradesh), Rangarh, 2000 m, 9.X.1979, Löbl, 62 specimens in GM, 21 specimens in AC; same collecting data, 2250 m, 21 specimens in GM, 7 specimens in AC; same locality, 2400 m, 10.X.1979, Löbl, 5 specimens in GM, 2 specimens in AC; Chaubattia near Ranikhet, 1800 m, 12-13.X.1979, Löbl, 4 specimens in GM, 1 specimen in AC; same locality, 1950 m, 14.X.1979, Löbl, 1 specimen in GM. India, Garhwal (Uttar Pradesh), 10 km west from Chamba, 2200 m, 20.X.1979, Löbl, 8 specimens in GM, 1 specimen in AC; Dhanolti, 2200 m, 20.X.1979, Löbl, 2 specimens in GM; 2 km east from Dhanolti, 2250 m, 21.X.1979, Löbl, 67 specimens in GM, 24 specimens in AC; 6 km east from Dhanolti, 2300 m, 21.X.1979, Löbl, 14 specimens in GM, 5 specimens in AC; 10 km east from Dhanolti, 2450 m, 21.X.1979, Löbl, 28 specimens in GM, 9 specimens in AC; over Joshimath, 2100 m, 27.X.1979, Löbl, 1 specimen in GM.

Collecting methods: Sifting dead leaves, ferns, mosses and grasses in forests of rhododendrons, maples, fir-trees and oak-trees.

D i s c u s s i o n : The punctuation of the new specimens is fine and sparse as in the holotype; the coloration of dorsum varies from reddish-brown to black. Length range: 2,1-2,8 mm.

New record from Kumaon and Garhwal, known hitherto of Kashmir.

Agathidium *(s. str.)* **visnu** n. sp.
Figs 33, 61, 62, 77

Length 2,6-3,0 mm (holotype ♂ 2,65 mm). Dorsum uniformly reddish-brown; venter reddish-brown; antennae uniformly testaceous; legs reddish-brown. Microreticulation absent. Punctuation very fine and sparse on head and pronotum, absent on elytra.

Head: Punctures very small and superficial, scarcely distinct, spaced from each other by 3-8 times their own diameter. Clypeal line absent. 3rd antennal segment 1,7 times as long as the 2nd and as long as 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctuation as on head. 1,3 times as broad as head, moderately broader than long (W/L = 1,49) and very convex (W/H = 1,49). Anterior margin scarcely bent. Lateral outline nearly angulate (fig. 77). Holotype: length 0,87 mm, width 1,30 mm, height 0,87 mm.

Elytra: Only some very small punctures; long and superficial lines are present. A little less broad than pronotum, as long as broad and moderately convex (W/H = 1,81). Lateral outline with slight humeral angle. Sutural striae scarcely distinct, within the apical third. Holotype: length 1,14 mm, width 1,20 mm, height 0,66 mm.

Metathoracic wings absent. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora simple. Tarsal formula: ♂ 5-5-4, ♀ 4-4-4.

Male copulatory organ (figs 61-62): Aedeagus slender, with ring-like proximal part, lateral margins gently convergent into a small rounded tip, bifid ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 33): Basal and apical parts slender, nearly alike in length and caliber, the latter bent.

Discussion: *A. visnu* n. sp. is close to *A. laevipenne* Port. and *A. fallax* Ang. & Dmz.; from *A. laevipenne* it differs in the absence of double punctuation; from *A. fallax* it differs in the lateral outline of pronotum and pronotal punctuation. Male copulatory organ and spermatheca only supply good distinctive characters.

Types: NEPAL, over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 1 ♂ holotype N.2770, 7 ♂ and 10 ♀ paratypes N.2771-2787 in GM, 4 ♂ and 4 ♀ paratypes N.2788-2795 in AC; Malemchi, 2800 m, 16.IV.1981, Löbl & Smetana, 1 ♂ paratype N.2796 in GM; Tarke Ghyang, 2650 m, 19.IV.1981 Löbl & Smetana, 1 ♂ paratype N.2797 in GM, 1 ♂ paratype N.2798 in AC.

Collecting methods: Sifting dead leaves, decaying wood, mosses and ferns in forests of rhododendrons, oak-trees and fir-trees.

Agathidium *(s. str.)* **manangense** Ang. & Dmz.

Agathidium (s. str.) *manangense* Angelini & De Marzo, 1983*a, Senckenberg. biol.,* 64: 168.

Material: NEPAL, Dobate Ridge, N/E of Barahbise, 2800 m, 2.V.1981, Löbl & Smetana, 1 ♂ holotype N.2795 and 2 ♀ paratypes N.2797-2798 in GM, 1 ♂ and 1 ♀ paratypes N.2796 and 2799 in AC; Malemchi, 2800 m, 14.IV.1981, Löbl & Smetana, 1 ♂ paratype N.2800 in GM.

Collecting methods: Sifting dead leaves, mosses and decaying tree branches in oak-forest with rhododendrons.

Remarks: This material has been utilized in order to describe the new species in ANGELINI & DE MARZO 1983*a*, together with 1 ♀ collected by Martens & Ausobsky (Nepal, Manang district, Marsyandi, Thimang, 2550 m, 14-17.IV.1980).

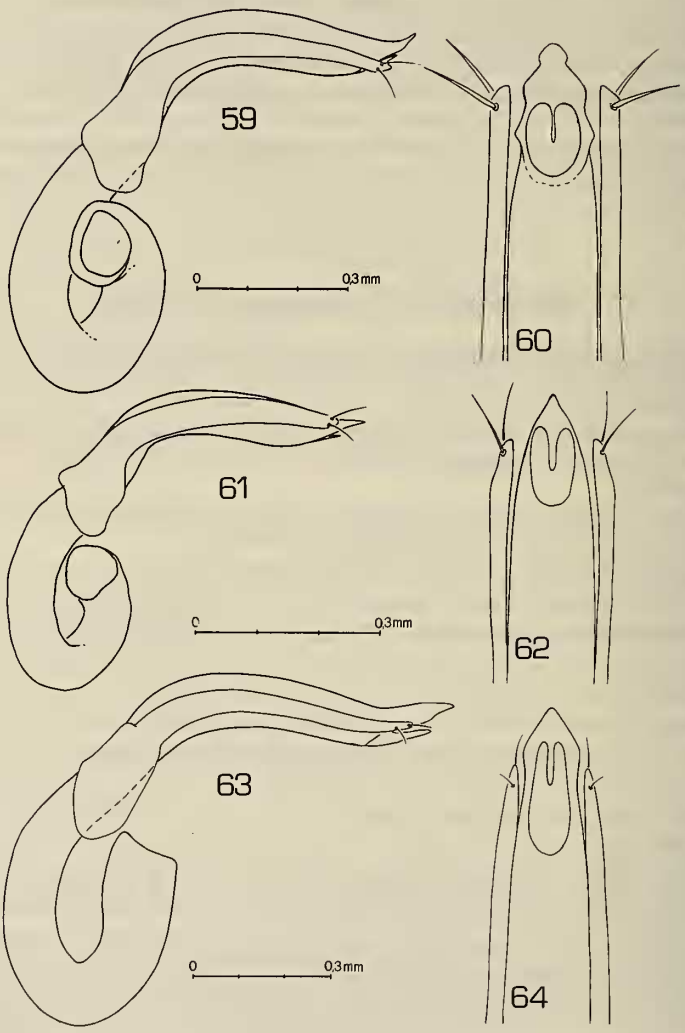
Agathidium *(s. str.)* **kathmanduense** Ang. & Dmz.

Agathidium (s. str.) *kathmanduense* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 255-256.

Material: NEPAL, Mere Dara, 3000 m, 7.IV.1981, Löbl & Smetana, 6 specimens in GM, 2 specimens in AC; below Thare Pati, 3500 m, 12.IV.1981, Löbl & Smetana, 1 specimen in GM; over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 3 specimens in GM, 1 specimen in AC; Dobate Ridge, N/E of Barahbise, 2800 m, 2.V.1981, Löbl & Smetana, 2 specimens in GM; same locality, 3000 m, 7.V.1981, Löbl & Smetana, 3 specimens in GM, 1 specimen in AC; Phulcoki, south of Kathmandu, 2500 m, 10.V.1981, Löbl & Smetana, 3 specimens in GM, 1 specimen in AC; same collecting data, 2300 m, 1 specimen in GM, 1 specimen in AC.

Collecting methods: Sifting dead leaves, mosses, decaying wood, ferns and humus in forests of oak-trees, maples and rhododendrons.

Discussion: Some of the new specimens are uniformly reddish-brown at dorsum. Length range: 2,0-2,4 mm.



FIGS 59-64.

Male copulatory organ (lateral view and ventral view of apex) of: 59-60, *A. bagmaticum* n. sp.; 61-62, *A. visnu* n. sp.; 63-64, *A. fulgens* n. sp.

Agathidium *(s. str.)* **fulgens** n. sp.
Figs 52, 63, 64, 89

Length 2,8-3,3 mm (holotype ♂ 3,1 mm). Dorsum uniformly reddish-brown; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Microreticulation superficial but uniform and distinct on head and pronotum, absent on elytra. Punctate only on elytra.

Head: Microreticulation superficial but uniform. Clypeal line absent. 3rd antennal segment twice as long as the 2nd and longer than 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulation as on head. 1,3 times as broad as head, moderately broader than long (W/L = 1,49) and very convex (W/H = 1,49). Lateral outline broadly rounded. Anterior margin scarcely bent. Holotype: length 1,00 mm, width 1,49 mm, height 1,00 mm.

Elytra: Microreticulation absent. Punctures very small and superficial, spaced from each other by 1-5 times their own diameter; long and irregular lines are interposed. A little broader than pronotum, a little broader than long (W/L = 1,17) and moderately convex (W/H = 1,79). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,35 mm, width 1,58 mm, height 0,88 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora with strong tooth at the posterior margin (fig. 52). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 63-64): Aedeagus slender, with hook-like proximal part, lateral margins sinuate and convergent into a subacute tip, bifid ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 89): Basal part pear-shaped, apical part slender.

Discussion: *A. fulgens* n. sp. differs from *A. kathmanduense* Ang. & Dmz. by larger size and ratio 3rd/2nd in antennal segments; from *A. siva* n. sp. it differs by presence of microreticulation on pronotum.

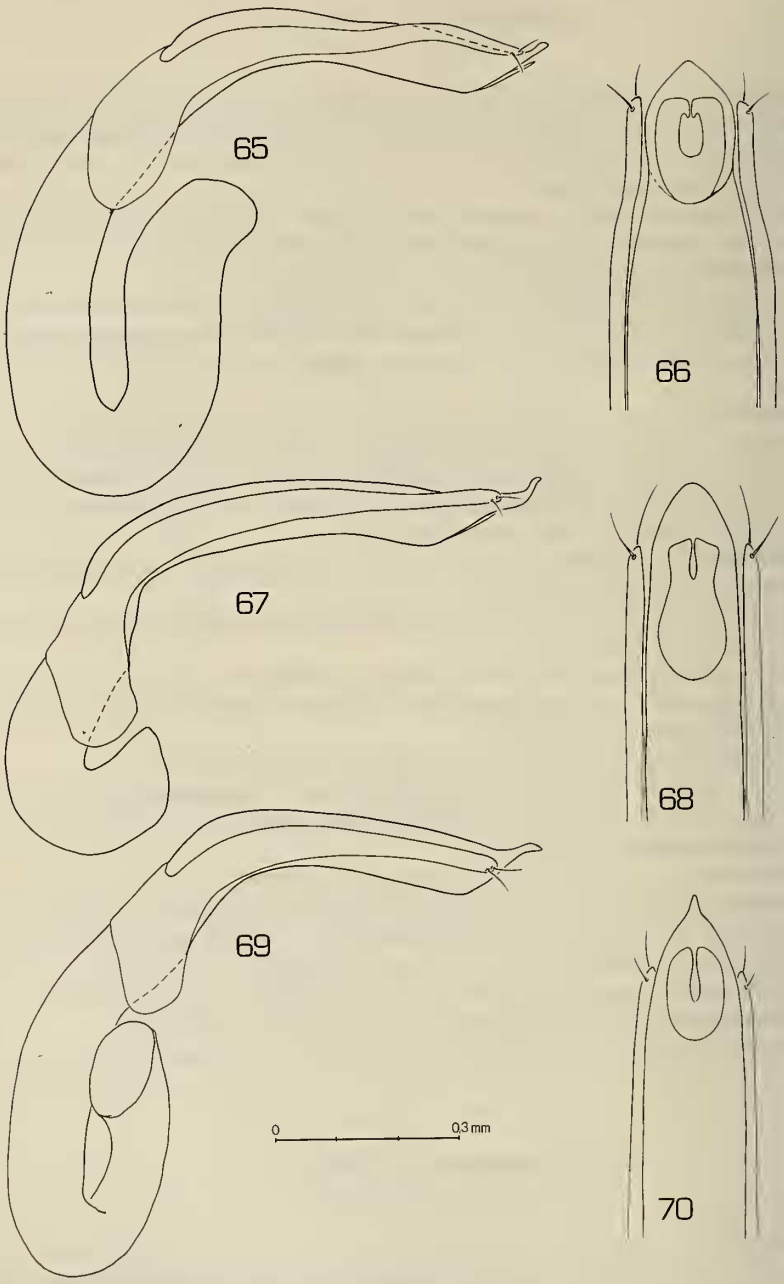
Types: NEPAL, Phulcoki, south of Kathmandu, 2500 m, 10.V.1981, Löbl & Smetana, 1 ♂ holotype N.2810 and 1 ♀ paratype N.2811 in GM, 2 ♀ paratypes N.2812-2813 in AC; same collecting data, 2300 m, 1 ♀ paratype N.2814 in GM; same locality, 2600 m, 20.IV.1982, A. & Z. Smetana, 2 ♂ and 1 ♀ paratypes N.5153-5155 in GM, 2 ♂ paratypes N.5156, 5157 in AC; same collecting data, 2550 m, 21.IV.1982, 1 ♂ paratype N.5158 in GM; same collecting data, 2600 m, 22.IV.1982, 1 ♀ paratype N.5159 in GM.

Collecting methods: Sifting grasses, humus and decaying wood in oak-forest.

Agathidium *(s. str.)* **siva** n. sp.
Figs 53, 65, 66, 90

Length 2,65 mm (holotype ♂ and paratype). Dorsum uniformly black; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Microreticulate only on head. Punctuation fine and sparse on head and pronotum, nearly absent on elytra.

Head: Distinctly and regularly microreticulate and furrowed. Punctures sparse, very small and superficial, spaced from each other by 3-8 times their own diameter. Clypeal line



FIGS 65-70.

Male copulatory organ (lateral view and ventral view of apex) of: 65-66, *A. siva* n. sp.; 67-68, *A. ishvara* n. sp.; 69-70, *A. rufifrons* n. sp.

absent. 3rd antennal segment twice as long as the 2nd and longer than 4th+5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures very small and superficial, spaced from each other by 3-8 times their own diameter. 1,3 times as broad as head, moderately broader than long (W/L = 1,6) and very convex (W/H = 1,49). Anterior margin scarcely bent. Lateral outline broadly rounded. Holotype: length 0,85 mm, width 1,36 mm, height 0,91 mm.

Elytra: Some traces of microreticulation; some long and irregular lines. Only some very small punctures. A little less broad than pronotum, a little broader than long (W/L = 1,18) and little convex (W/H = 1,9). Lateral outline with broadly rounded humeral angle. Sutural striae absent. Holotype: length 1,12 mm, width 1,33 mm, height 0,70 mm.

Methatoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora simple (fig. 53). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 65-66): Aedeagus slender, with hook-like proximal part, lateral margins sinuate and convergent into a subacute tip; bifid and particularly shaped ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 90): Basal part pear-shaped, apical part slender.

Discussion: *A. siva* n. sp. is close to *A. fulgens* n. sp. and *A. kathmanduense* Ang. & Dmz.; from both of them it differs by absence of pronotal microsculpture. Moreover, it differs from *A. fulgens* in shape of male hind femura, from *A. kathmanduense* in size and black coloration of dorsum.

Types: Nepal, Malemchi, 2900 m, 14.IV.1981, Löbl & Smetana, 1 ♂ holotype N.2808 and 1 ♀ paratype N.2809 in GM; below Thare Pati, 3300 m, 11.IV.1981, Löbl & Smetana, 1 paratype N.5528 in AC.

Collecting methods: Sifting dead leaves of rhododendrons, oak-trees and chestnut-trees.

Agathidium *(s. str.)* **semireticulatum** Ang. & Dmz.

Agathidium (s. str.) *semireticulatum* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 258-259.

Material: Nepal, Yardang Ridge, N/E of Barahbise, 3250 m, 5.V.1981, Löbl & Smetana, 2 specimens in GM, 1 specimen in AC.

Collecting methods: Sifting in forests of maples and rhododendrons.

Discussion: The new specimens agree in all characters with the types; one of them is incompletely sclerotized.

Agathidium *(s. str.)* **ishvara** n. sp.
Figs 54, 67, 68, 91

Length 2,35-3,05 (holotype ♂ 3 mm). Dorsal coloration variable, more or less darkly reddish-brown or black; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Microreticulate only on elytra. Punctuation fine and sparse on head and pronotum, absent on elytra.

Head: Punctures very small and superficial, scarcely distinct, spaced from each other by 4-6 times their own diameter. Clypeal line absent. 3rd antennal segment twice as long

as the 2nd and longer than 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctate as head. 1,4 times as broad as head, moderately broader than long (W/L = 1,5) and very convex (W/H = 1,5). Anterior margin scarcely bent. Lateral outline broadly rounded. Holotype: length 1,00 mm, width 1,50 mm, height 1,00 mm.

Elytra: Microreticulation variably impressed, strong in reddish-brown males, nearly absent in black females. As broad as pronotum, nearly as broad as long and moderately convex (W/H = 1,83). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,34 mm, width 1,47 mm, height 0,80 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora simple (fig. 54). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 67-68): Aedeagus slender, with hook-like proximal part, lateral margins approached into a broadly rounded apex, bifid ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 91): Basal part pear-shaped, apical part slender.

Discussion: *A. ishvara* n. sp. is close to *A. semireticulatum* Ang. & Dmz., *A. rufifrons* n. sp. and *A. circumflexum* Ang. & Dmz. It differs from *A. semireticulatum* by coloration of antennae, from *A. rufifrons* and *A. circumflexum* by ratio 3rd/2nd in antennal segments.

Types: Nepal, Dobate Ridge, N/E of Barahbise, 2800 m, 2.V.1981, Löbl & Smetana, holotype ♂ N.2818, 1 ♂ and 8 ♀ paratypes N.2820-2828 in GM, 1 ♂ and 2 ♀ paratypes N.2829-2831 in AC; same collecting data, 2700 m, 1 ♂ paratype N.2832 in GM; same locality, 3000 m, 7.V.1981, 3 ♂ and 6 ♀ paratypes N.2833-2841 in GM, 2 ♂ and 1 ♀ paratypes N.2842-2844 in AC; Mere Dara, 3000 m, 7.IV.1981, Löbl & Smetana, 2 ♀ paratypes N.2845-2846 in GM; below Thare Pati, 3300 m, 9.IV.1981, Löbl & Smetana, 1 ♀ paratype N.2847 in GM; same collecting data, 10.IV.1981, 1 ♀ paratype N.2848 in GM; same locality, 3500 m, 12.IV.1981, Löbl & Smetana 1 ♂ paratype N.2849 in AC; Malemchi, 2900 m, 14.IV.1981, Löbl & Smetana, 1 ♀ paratype N.2850 in GM; over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 1 ♀ paratype N.2851 in GM, 1 ♀ paratype N.2852 in AC; Yardang Ridge, N/E of Barahbise, 3250 m, 5.V.1981, Löbl & Smetana, 1 ♂ and 8 ♀ paratypes N.2853-2861 in GM, 1 ♂ and 2 ♀ paratypes N.2862-2864 in AC.

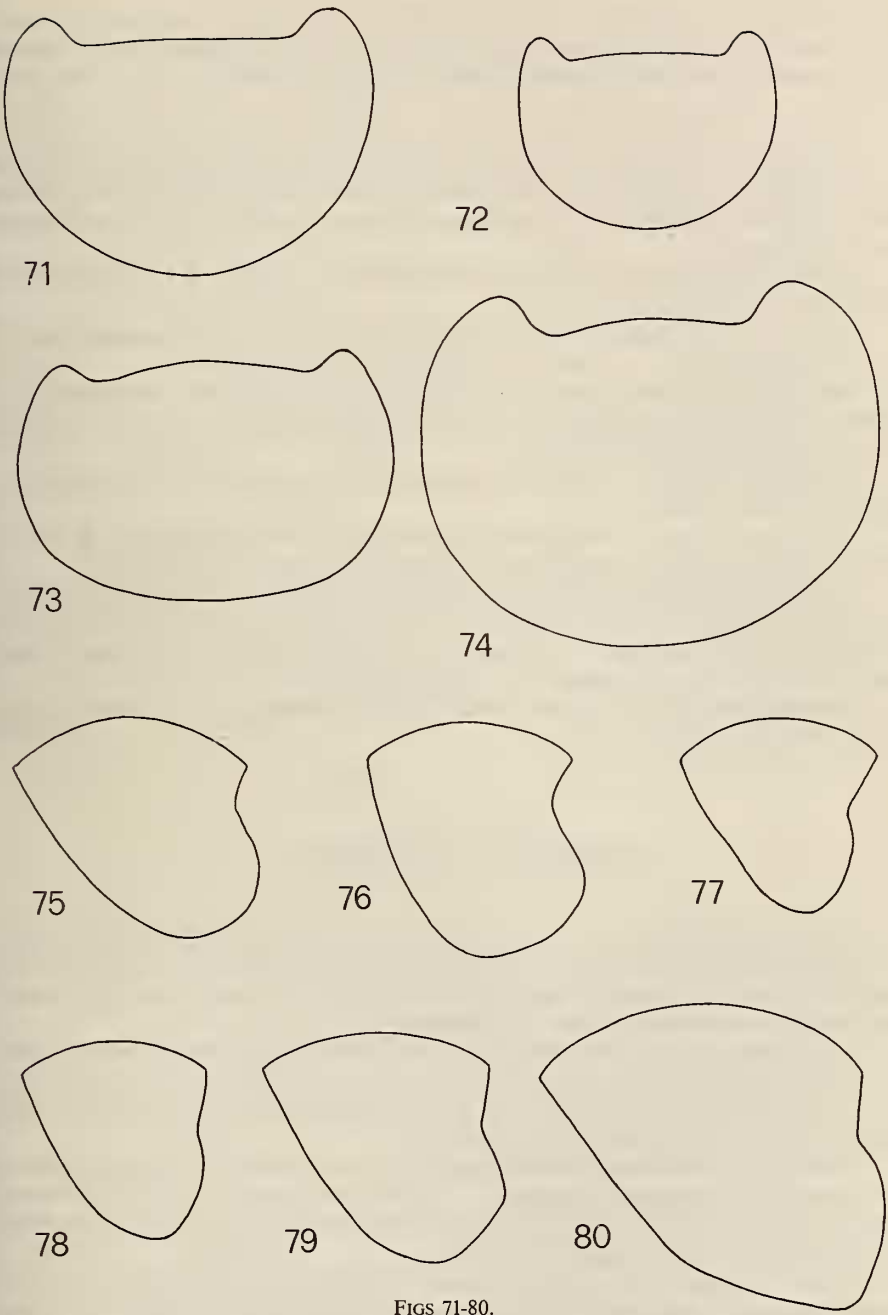
Collecting methods: Sifting mosses on the ground, on rocks or on tree trunks; sifting dead leaves, ferns, decaying wood and grasses in forests of rhododendrons, maples, fir-trees, oak-trees and chestnut trees.

Agathidium *(s. str.)* **rufifrons** n. sp.

Figs 55, 69, 70, 92

Length 2,65-3,0 mm (holotype ♂ 2,65 mm). Dorsum black, reddish at sides of head and pronotum; venter dark reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs dark reddish-brown. Microreticulation very superficial, present only on elytra. Punctuation fine and superficial, present only on head and pronotum.

Head: Punctures very small and superficial, spaced from each other by 3-6 times their own diameter. Clypeal line absent. 3rd antennal segment 1,7 times as long as the 2nd and longer than 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.



FIGS 71-80.

Dorsal or lateral outline of pronotum of: 71, *A. kali* n. sp.; 72, *A. dobaticum* n. sp.; 73, *A. tibiale* n. sp.; 74, *A. maculicolle* Champ.; 75, *A. kali* n. sp.; 76, *A. bagmaticum* n. sp.; 77, *A. visnu* n. sp.; 78, *A. dobaticum* n. sp.; 79, *A. tibiale* n. sp.; 80, *A. maculicolle* Champ.

Pronotum: Punctuation as on head. 1,5 times as broad as head, moderately broader than long (W/L = 1,59) and moderately convex (W/H = 1,55). Anterior margin scarcely bent. Lateral outline broadly rounded. Holotype: length 0,88 mm, width 1,40 mm, height 0,90 mm.

Elytra: Microreticulation nearly absent in the holotype ♂, superficial but distinct in the paratypes ♀. Only some very small punctures in the holotype. As broad as pronotum, a little broader than long (W/L = 1,21) and little convex (W/H = 2,12). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,15 mm, width 1,40 mm, height 0,66 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora with weak subdistal tooth at the posterior margin (fig. 55). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 69-70): Aedeagus slender, with ring-like proximal part, lateral margins gently approached into a small acute tip, bifid ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 92): Basal part pear-shaped, with a tubercule at the duct connection; apical part slender.

Discussion: *A. rufifrons* n. sp. is related to *A. circumflexum* Ang. & Dmz. by several characters, but it is clearly separated from it by differences in aedeagus.

Types: Nepal, Yardang Ridge, N/E of Barahbise, 3250 m, 5.V.1981, Löbl & Smetana, 1 ♂ holotype N.2815 in GM, 1 ♀ paratype N.2816 in AC; Dobate Ridge, N/E of Barahbise, 2700 m, 7.V.1981, Löbl & Smetana, 1 ♀ paratype N.2817 in AC; same locality, 2800 m, 2.V.1981, Löbl & Smetana, 1 ♀ paratype N.2818 in GM.

Collecting methods: Sifting dead leaves, mosses and decaying wood in forests of oak-trees, rhododendrons and fir-trees.

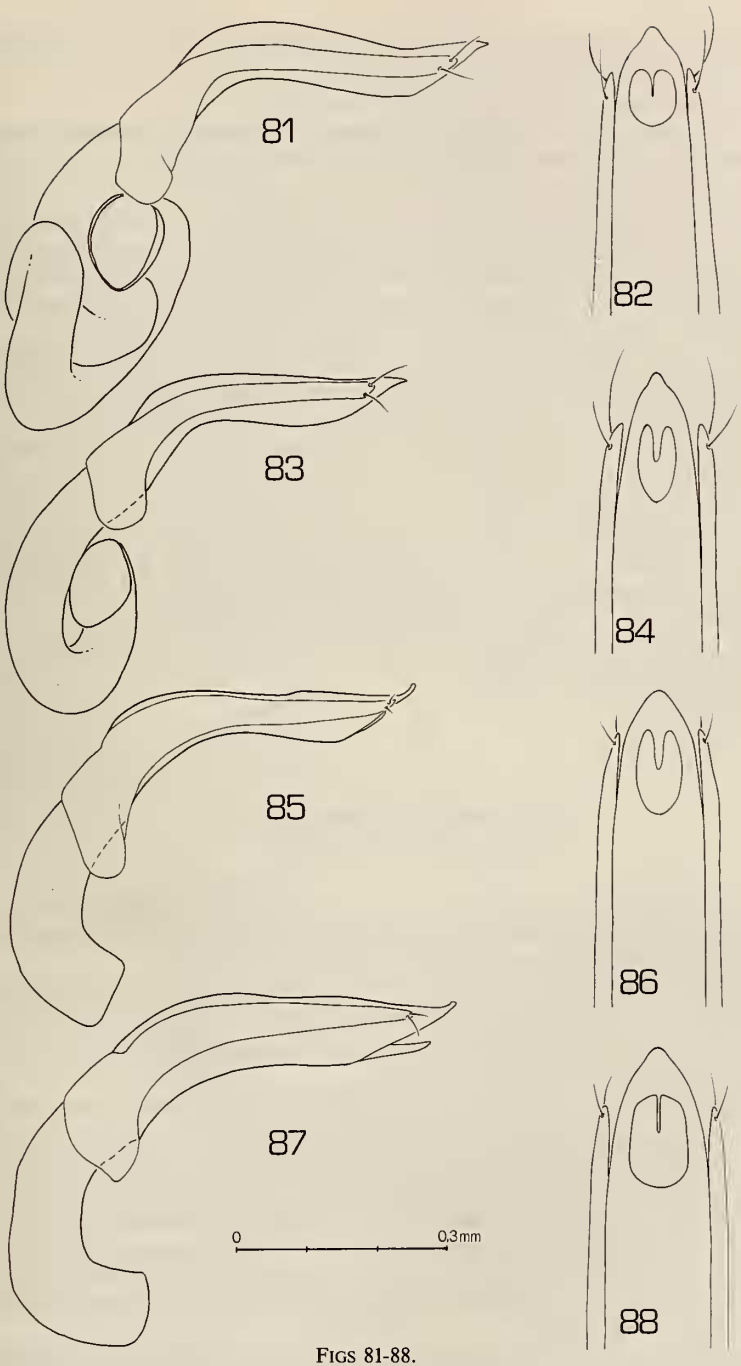
Agathidium *(s. str.)* **dobaticum** n. sp.
Figs 72, 78, 81, 82, 93

Length 2,35-2,65 mm (holotype ♂ 2,5 mm). Dorsum uniformly dark reddish-brown or black; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Microreticulation very superficial on elytra, nearly absent on head and pronotum. Whole dorsum finely and sparsely punctate.

Head: Some traces of microreticulation. Punctures very small and superficial, spaced from each other by 5-6 times their own diameter. Clypeal line absent. 3rd antennal segment 1,3 times as long as the 2nd and as long as 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Some traces of microreticulation. Punctate as head. 1,4 times as broad as head, moderately broader than long (W/L = 1,5) and very convex (W/H = 1,36). Anterior margin scarcely bent (fig. 72). Lateral outline broadly rounded (fig. 78). Holotype: length 0,80 mm, width 1,20 mm, height 0,88 mm.

Elytra: Microreticulation very superficial. Punctures a little larger than on pronotum, superficial, spaced from each other by 6-7 times their own diameter. As broad as pronotum, nearly as broad as long and moderately convex (W/H = 1,69). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,10 mm, width 1,22 mm, height 0,77 mm.



FIGS 81-88.

Male copulatory organ (lateral view and ventral view of apex) of: 81-82, *A. dobaticum* n. sp.; 83-84, *A. tenebricosum* n. sp.; 85-86, *A. tibiale* n. sp.; 87-88, *A. pusillum* Ang. & Dmz.

Metathoracic wings absent. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines complete.

Legs: Male hind femora simple. Tarsal formula: ♂ 5-5-4, ♀ 4-4-4.

Male copulatory organ (figs 81-82): Aedeagus slender, with convolute proximal part, lateral margins gently approached into a small rounded tip, bifid ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 93): Basal and apical parts nearly alike in caliber; the latter shorter.

Discussion: *A. dobaticum* n. sp. is close to *A. martensi* Ang. & Dmz. and *A. franzi* Ang. & Dmz. by habitus and punctuation characters. It differs from *A. franzi* in the ratio of 3rd/2nd antennal segments and in presence of microreticulation on head and pronotum, from *A. martensi* by presence of microreticulation on elytra.

Types: NEPAL, Dobate Ridge, N/E of Barahbise, 2700 m, 2.V.1981, Löbl & Smetana, 1 ♂ holotype N.2865, 28 ♂ and 18 ♀ paratypes N.2866-2911 in GM, 8 ♂ and 8 ♀ paratypes N.2912-2927 in AC; same collecting data, 2800 m, 14 ♂ and 10 ♀ paratypes N.2928-2951 in GM, 4 ♂ and 4 ♀ paratypes N.2952-2959 in AC; same locality, 3000 m, 7.V.1981, Löbl & Smetana, 9 ♂ and 13 ♀ N.2960-2981 in GM, 3 ♂ and 3 ♀ paratypes N.2982-2987 in AC; same collecting data, 2700 m, 1 ♂ paratype N.2988 in GM; Yardang Ridge, N/E of Barahbise, 3250 m, 5.V.1981, Löbl & Smetana, 3 ♂ and 6 ♀ paratypes N.2989-2997 in GM, 1 ♂ and 1 ♀ paratypes N.2998-2999 in AC; Amatal Khola, N/E Barahbise, SS/Tingsang La 3, 3100 m, 27.X.1981, Cassagnau, 4 ♂ and 1 ♀ paratypes N.5160-5164 in GM, 2 ♂ and 1 ♀ paratypes N.5165-5167 in AC.

Collecting methods: Sifting dead leaves, mosses and decaying wood in forest of oak-trees, fir-trees and rhododendrons.

Agathidium *(s. str.)* **tenebricosum** n. sp.
Figs 83, 84, 94

Length 2,0-2,5 mm (holotype ♂ 2,3 mm). Dorsum black, reddish at sides of pronotum; venter reddish-brown; antennae uniformly testaceous; legs reddish-brown. Microreticulation absent. Whole dorsum finely and sparsely punctate.

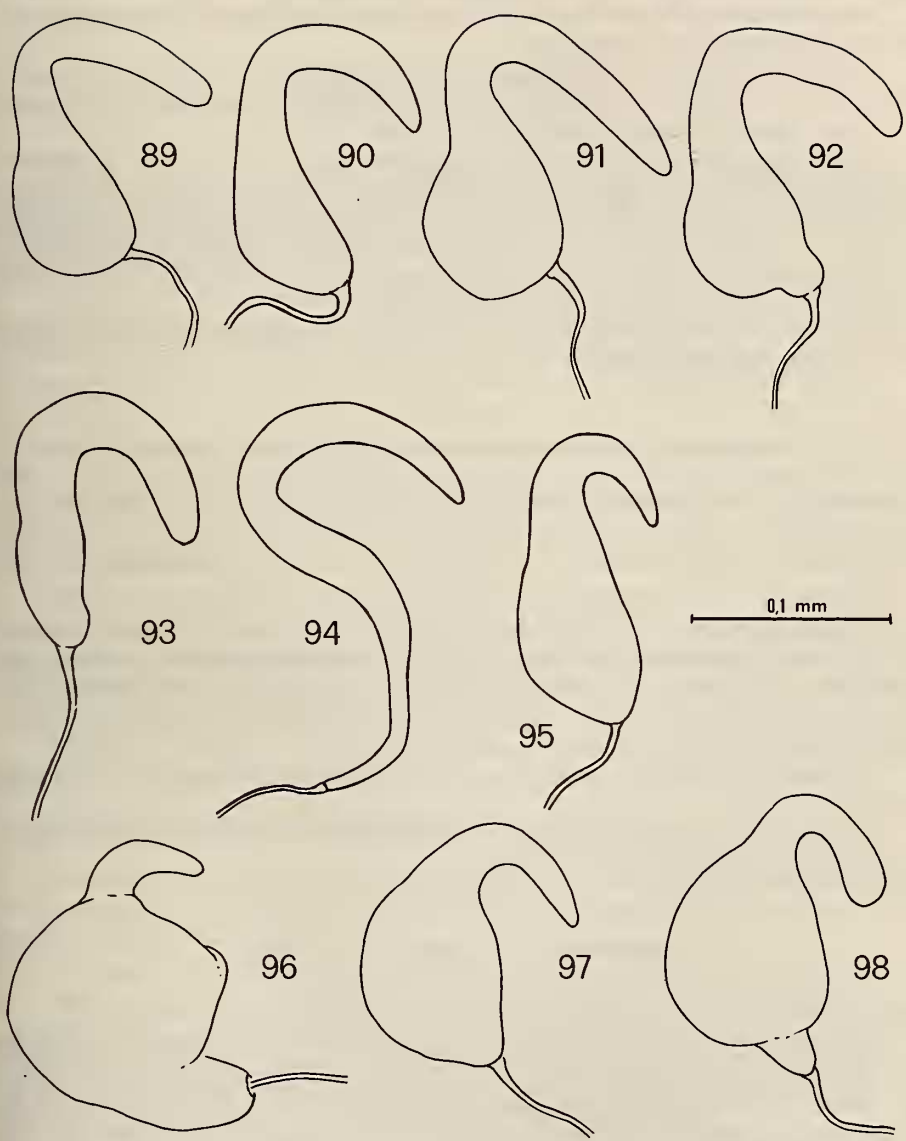
Head: Punctures very small and superficial, spaced from each other by 3-8 times their own diameter. Clypeal line absent. 3rd antennal segment 1,4 times as long as the 2nd and shorter than 4th + 5th. Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as large and superficial as on head, spaced from each other by 6-8 times their own diameter. 1,4 times as broad as head, moderately broader than long (W/L = 1,68) and moderately convex (W/H = 1,57). Anterior margin scarcely bent. Lateral outline broadly rounded. Holotype: length 0,70 mm, width 1,18 mm, height 0,75 mm.

Elytra: Punctures moderately large but very superficial, spaced from each other by 1-5 times their own diameter; some very small punctures are interposed. As broad as pronotum, a little broader than long (W/L = 1,13) and moderately convex (W/H = 1,57). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,04 mm, width 1,18 mm, height 0,65 mm.

Metathoracic wings absent. Meso- and metasternum: median carina absent, lateral lines absent, femoral lines complete.

Legs: Male hind femora simple. Tarsal formula: ♂ 5-5-4, ♀ 4-4-4.



FIGS 89-98.

Spermatheca of: 89, *A. fulgens* n. sp.; 90, *A. siva* n. sp.; 91, *A. ishvara* n. sp.; 92, *A. rufifrons* n. sp.; 93, *A. dobaticum* n. sp.; 94, *A. tenebricosum* n. sp.; 95, *A. tibiale* n. sp.; 96, *A. maculicolle* Champ.; 97, *A. rama* n. sp.; 98, *A. brahma* n. sp.

Male copulatory organ (figs 83-84): Aedeagus slender, with ring-like proximal part, lateral margins gently approached into a small subacute tip; bifid ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 94): Basal and apical parts slender; the former with a duct-like production towards the duct connection.

Discussion: *A. tenebricosum* n. sp. is related to *A. phulcokiense* Ang. & Dmz. and *A. transversum* Ang. & Dmz. by several characters. An examination of the male copulatory organ is suitable to separate these species.

Types: NEPAL, Dobate Ridge, N/E of Barahbise, 2800 m, 2.V.1981, Löbl & Smetana, 1 ♂ holotype N.3020, 3 ♂ and 2 ♀ paratypes N.3021-3025 in GM, 1 ♂ and 1 ♀ paratypes N.3026-3027 in AC; same collecting data, 2700 m, 2 ♂ and 2 ♀ paratypes N.3028-3031 in GM, 1 ♂ paratype N.3032 in AC; same locality, 3000 m, 7.V.1981, Löbl & Smetana, 1 ♀ paratype N.3033 in GM; same collecting data, 2700 m, 3 ♀ paratypes N.3034-3036 in GM, 1 ♂ and 1 ♀ paratypes N.3037-3038 in AC.

Collecting methods: Sifting dead leaves, mosses and decaying wood in forests of oak-trees, fir-trees and rhododendrons.

Agathidium *(s. str.)* **phulcokiense** Ang. & Dmz. (nom. emend.)

Agathidium (s. str.) *phulchokiense* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 278-279.

Agathidium (s. str.) *phulchokiense:* ANGELINI & DE MARZO 1983*a*, *Senckenberg. biol.* 64: 172.

Material: NEPAL, over Gul Bhanjyang, 2600 m, 6.IV.1981, Löbl & Smetana, 22 specimens in GM, 6 specimens in AC; Dobate Ridge, N/E of Barahbise, 2700 m, 7.V.1981, Löbl & Smetana, 1 specimen in GM; Phulcoki, south of Kathmandu, 2500 m, 10.V.1981, Löbl & Smetana, 42 specimens in GM, 12 specimens in AC; same collecting data, 2300 m, 1 specimen in GM.

Collecting methods: Sifting dead leaves, mosses, grasses and decaying wood in oak-forests.

Discussion: Some specimens differ from the types by the uniform black coloration of dorsum. Length range: 2,1-2,4 mm.

Agathidium *(s. str.)* **paria** Ang. & Dmz.

Agathidium (s. str.) *paria* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 287.

Material: NEPAL, near Mere Dara, 3000 m, 7.IV.1981, Löbl & Smetana, 3 specimens in GM; over Thare Pati, 3300 m, 10.IV.1981, Löbl & Smetana, 2 specimens in GM; Malemchi, 2900 m, 14.IV.1981, Löbl & Smetana, 4 specimens in GM, 2 specimens in AC; same collecting data, 2800 m, 4 specimens in GM, 2 specimens in AC; same collecting data, 16.IV.1981, 8 specimens in GM, 3 specimens in AC; Yangri Ridge, 4500 m, 23.IV.1981, Löbl & Smetana, 3 specimens in GM, 1 specimen in AC; Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 1 specimen in GM.

Collecting methods: Sifting mosses on the ground or on tree trunks; sifting dead leaves, ferns, grasses and decaying wood in forests of oak-trees, rhododendrons, maples, chestnut-trees and fir-trees.

Discussion: Variability has been observed in coloration (from reddish-brown to black) and punctuation (more or less dense). In some specimens the aedeagus is more enlarged towards apex. Length range: 3,2-3,7 mm.

Agathidium *(s. str.)* **tibiale** n. sp.
Figs 56, 73, 79, 85, 86, 95, 99

Length 1,8-2,1 mm (holotype ♂ 1,8 mm). Dorsum uniformly reddish-brown; venter reddish-brown, paler on mesosternum; antennae uniformly testaceous; legs reddish-brown. Microreticulation nearly absent on head and pronotum, superficial on elytra. Whole dorsum finely and sparsely punctate.

Head: Some traces of microreticulation everywhere. Punctures moderately large and impressed, spaced from each other by 1-4 times their own diameter. Clypeal line absent. 3rd antennal segment 1,5 times as long as the 2nd and longer than 4th + 5th (fig. 99). Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Some traces of microreticulation everywhere. Punctures as large and impressed as on head but sparser, spaced from each other by 1-6 times their own diameter; some very small punctures are interposed. 1,4 times as broad as head, moderately broader than long (W/L = 1,63) and moderately convex (W/H = 1,57). Anterior margin scarcely bent (fig. 73). Lateral outline broadly rounded (fig. 79). Holotype: length 0,57 mm, width 0,93 mm, height 0,59 mm.

Elytra: Microreticulation superficial but uniform. Punctures a little less large than on pronotum, superficial, spaced from each other by 3-10 times their own diameter. As broad as pronotum, a little broader than long (W/L = 1,16) and moderately convex (W/H = 1,55). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 0,80 mm, width 0,93 mm, height 0,60 mm.

Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora simple. Male hind tibiae dilated (fig. 56). Tarsal formula: ♂ 4-4-4, ♀ 4-4-4.

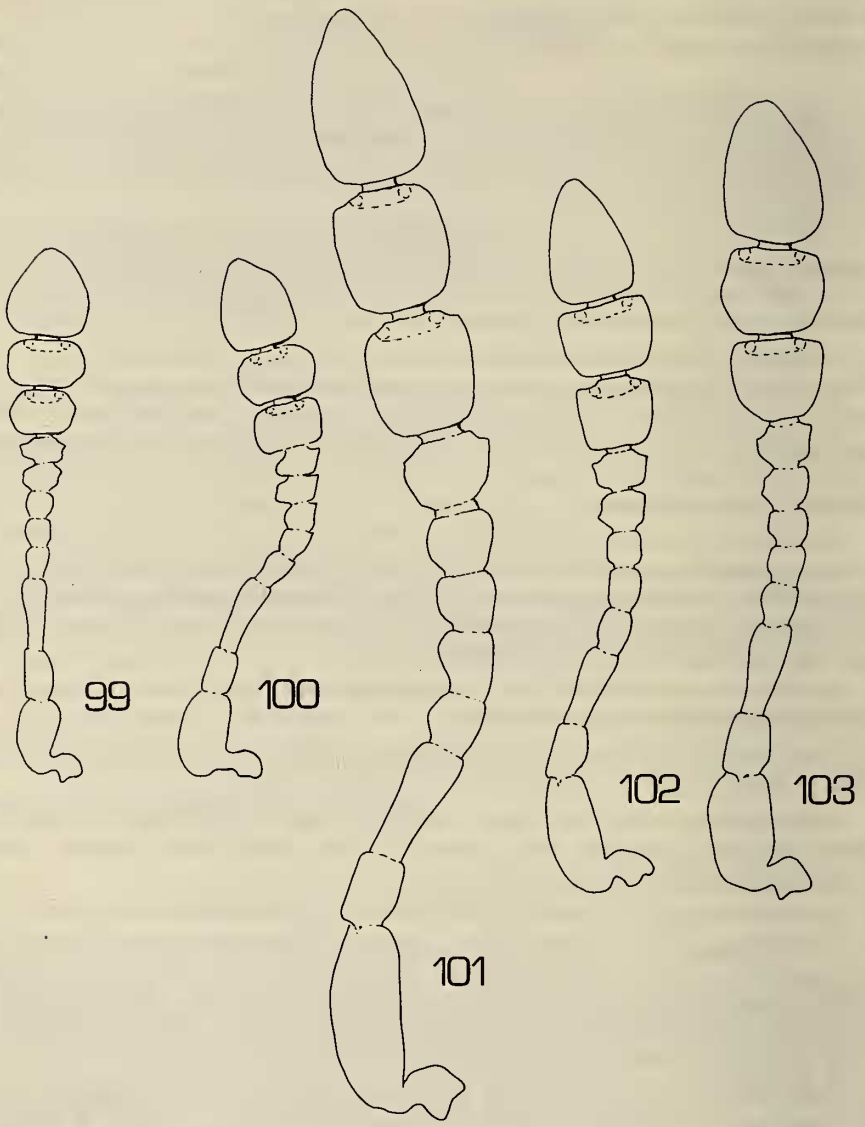
Male copulatory organ (figs 85-86): Aedeagus slender, with proximal part simple, lateral margins gently convergent into a rounded tip, bifid ventral piece; parameres robust, gently tapering towards apex.

Spermatheca (fig. 95): Basal part pear-shaped; apical part slender and short.

Discussion: *A. tibiale* n. sp. is close to *A. minutissimum* Ang. & Dmz. and *A. nepalense* Ang. & Dmz. It differs from *A. minutissimum* by more convex body, lateral outline of pronotum and absence of clear microreticulation on head and pronotum; from *A. nepalense* by lateral outline of pronotum, characters of meso- and metasternum and shape of male hind tibiae, which are dilated as in *A. minutissimum.*

Types: Nepal, Phulcoki, south of Kathmandu, 2500 m, 10.V.1981, Löbl & Smetana, 1 ♂ holotype N.3042 and 2 ♀ paratypes N.3043-3044 in GM, 1 ♂ and 1 ♀ paratypes N.3045-3046 in AC; over Shermathang, 2900 m, 26.IV.1981, Löbl & Smetana, 1 ♂ paratype N.3047 in GM.

Collecting methods: Sifting dead leaves, ferns, grasses and humus in forests of rhododendrons and oak-trees.



FIGS 99-103.

Antenna of: 99, *A. tibiale* n. sp.; 100, *A. pusillum* Ang. & Dmz.; 101, *A. maculicolle* Champ.; 102, *A. rama* n. sp.; 103, *A. brahma* n. sp.

Agathidium *(s. str.)* **pusillum** Ang. & Dmz.
Figs 87, 88, 100

Agathidium (s. str.) *pusillum* Angelini & De Marzo, 1981, *Entomol. basiliensia* 6: 217.
Agathidium (s. str.) *pusillum:* ANGELINI & DE MARZO 1984a, *Revue suisse Zool.* 91: 551.

Material: NEPAL, Dobate Ridge, N/E Barahbise, 2700 m, 2.V.1981, Löbl & Smetana, 5 specimens in GM, 2 specimens in AC; same locality, 7.V.1981, Löbl & Smetana, 26 specimens in GM, 9 specimens in AC.

Collecting methods: Sifting dead leaves and mosses in oak-forest.

Discussion: We knew only one specimen ♀ of this species. Tarsal formula ♂: 4-4-4. Antenna: fig. 100; male hind femura simple; male hind tibiae expanded as in females (ANGELINI & DE MARZO 1981, fig. 20); male copulatory organ: figs 87-88. The coloration of these specimens is similar to that of the holotype; the punctuation is more or less dense. Length range: 1,75-2,2 mm.

New record from Nepal, known hitherto only from Darjeeling.

Agathidium *(s. str.)* **maculicolle** Champ.
Figs. 57, 74, 80, 96, 101, 110-112

Agathidium maculicolle Champion, 1924, *Entomologist's mon. Mag.* 60: 161.
Agathidium maculicolle: HATCH 1929, *Cat. Junk,* 105: 81.

Material: INDIA, Kumaon (Uttar Pradesh), Bhim Tal, 1500 m, 4.X.1979, Löbl, 1 ♀ in GM.

Collecting methods: Sifting in secondary forest; dry environment.

Remarks: This species was included by HATCH (*l.c.*) in the chapter «*Incertae sedis*» and was omitted in the HLISNIKOVSKY's revision (1964). Therefore we think suitable to redescribe it here. Together with the above-mentioned specimen, we have examined one male type specimen deposited in British Museum.

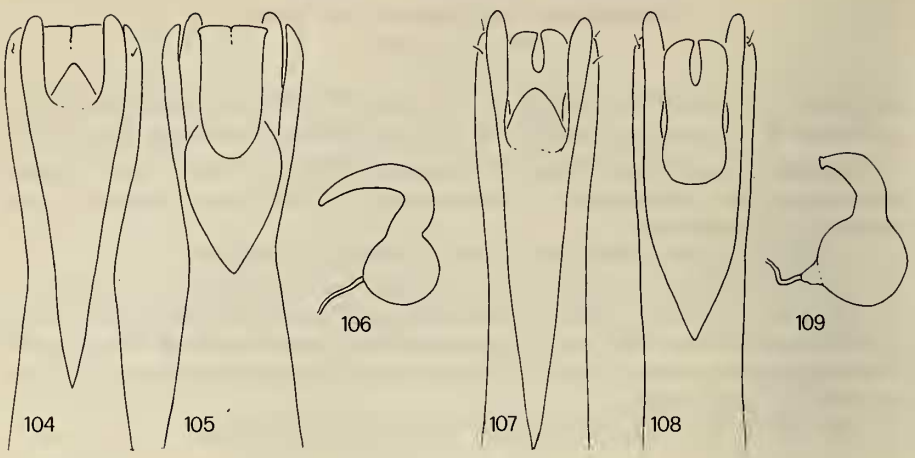
Redescription:

Length 4,05-4,3 mm (type ♂ 4,05 mm). Dorsum reddish-brown; venter reddish-brown, paler on meso and metasternum; antennae testaceous, with segments 7-10 darker; legs testaceous. Microsculptured only on head. Whole dorsum finely punctate.

Head: Microsculptured (furrowing) on the anterior half. Punctures small and superficial, spaced from each other by 3-10 times their own diameter. Clypeal line absent. One short groove and a dimple at each side of clypeus. Anterior-lateral margins rimmed. 3rd antennal segment 1,7 times as long as the 2nd and shorter than 4th + 5th (fig. 101). Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Microreticulation absent. Punctuation as on head. Twice as broad as head, moderately broader than long (W/L = 1,44) and moderately convex (W/H = 1,55). Anterior margin much bent (fig. 74). Lateral outline broadly rounded (fig. 80). Type: length 1,45 mm, width 2,10 mm, height 1,35 mm.

Elytra: Microreticulation absent. Punctures twice as large than on head, impressed, spaced from each other by 5 times their own diameter. A little less broader than pronotum, as broad as long and moderately convex (W/H = 1,72). Lateral outline with slight humeral angle. Sutural striae absent. Type: length 1,80 mm, width 1,90 mm, height 1,10 mm.



Figs 104-109.

Apex of male copulatory organ (dorsal and ventral view) and spermatheca of: 104-106, *A. laticorne* Port.; 107-109, *A. semirufum* Ang. & Dmz.

Metathoracic wings present. Meso- and metasternum: median carina present, lateral lines complete, femoral lines incomplete.

Legs: Male hind femora simple (fig. 57). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 110-112): Aedeagus robust, with proximal part simple and trifid apex; ventral piece very particularly shaped; parameres robust, gently tapering towards apex.

Spermatheca (fig. 96): Basal part subspherical with a tubercule towards the duct connection; apical part slender and short.

D i s c u s s i o n : *A. maculicolle* Champ. is close to *A. taru* Ang. & Dmz. in most characters; it is separable from it by presence of lateral lines of mesosternum and aedeagus shape.

Type material examined: *A. maculicolle* Champ. was described on the basis of 2 specimens, ♂ and ♀. We have examined the male, deposited in British Museum and so labelled: «W. Almora, Divn. Kumaon U.P., July 1919, H.G.C.».

Agathidium *(s. str.)* **laticorne** Port.
Figs 104-106

Agathidium (Cyphoceble) laticorne Portevin, 1922, *Bull. Mus. natn. Hist. nat.,* Paris, 28: 58.
Agathidium (s. str.) *laticorne:* Hlisnikovsky 1964, *Acta ent. Mus. Natn. Pragae,* suppl. 5: 200.
Agathidium (s. str.) *laticorne:* Angelini & De Marzo 1983*b*, *Entomol. basiliensia* 8: 162.
Agathidium (s. str.) *laticorne:* Angelini & De Marzo, 1984a, *Revue suisse Zool.* 91: 559.

Agathidium (s. str.) *laticorne:* ANGELINI & DE MARZO 1984b, *Annls Hist. nat. Mus. natn. hung.* 76: 167.
Agathidium (s. str.) *ceylanicum* Hlisnikovsky, 1972, *Mitt. schweiz ent. Ges.* 45: 131.

Material: NEPAL, ridge between Mere Dara and Thare Pati, 3500 m, 9.IV.1981, Löbl & Smetana, 1 specimen in GM; Tarang Marang, 1000 m, 27.IV.1981, Löbl & Smetana, 1 specimen in GM, 2 specimens in AC; Phulchoki, south of Kathmandu, 1700 m, 10.V.1981, Löbl & Smetana, 1 specimen in GM. India, Garhwal (Uttar Pradesh), 20 km south of Chamba, 1150 m, 20.X.1979, Löbl, 1 specimen in GM.

Collecting methods: Collected under stones (Mere Dara) or sifting decaying wood (Chamba); attracted by lamp (Tarang Marang).

D i s c u s s i o n : *A. laticorne* Port. is very close to *A. semirufum* Ang. & Dmz. in external characters. Clear differences between these two species are found in shape of the spermatheca and male copulatory organ (figs 104-109).

Distribution: Nepal, Bhutan, India (Garhwal, Darjeeling, Assam and Orissa), Sri Lanka, Indonesia. New record from Garhwal.

Agathidium *(s. str.)* **rama** n. sp.
Figs 58, 97, 102, 113-115

Length 2,8-2,9 mm (holotype ♂ 2,8 mm). Dorsum uniformly dark reddish-brown; venter paler; antennae uniformly testaceous; legs testaceous. Microsculptured only on head. Whole dorsum finely and sparsely punctate.

Head: Microsculptured (furrowed) near the clypeal margin. Punctures very small and sparse, spaced from each other by 4-8 times their own diameter. Clypeal line absent: one short longitudinal groove and one dimple at each side of clypeus. 3rd antennal segment 1,7 times as long as the 2nd and as long as 4th + 5th (fig. 102). Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as large but more sparse than on head. 1,8 times as broad as head, a little broader than long (W/L = 1,35) and very convex (W/H = 1,38). Anterior margin scarcely bent. Lateral outline broadly rounded. Holotype: length 1,02 mm, width 1,38 mm, height 1,00 mm.

Elytra: Punctures twice as broad as on pronotum, superficial, spaced from each other by 4-10 times their own diameter. As broad as pronotum, a little broader than long (W/L = 1,15) and moderately convex (W/H = 1,72). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,20 mm, width 1,38 mm, height 0,80 mm.

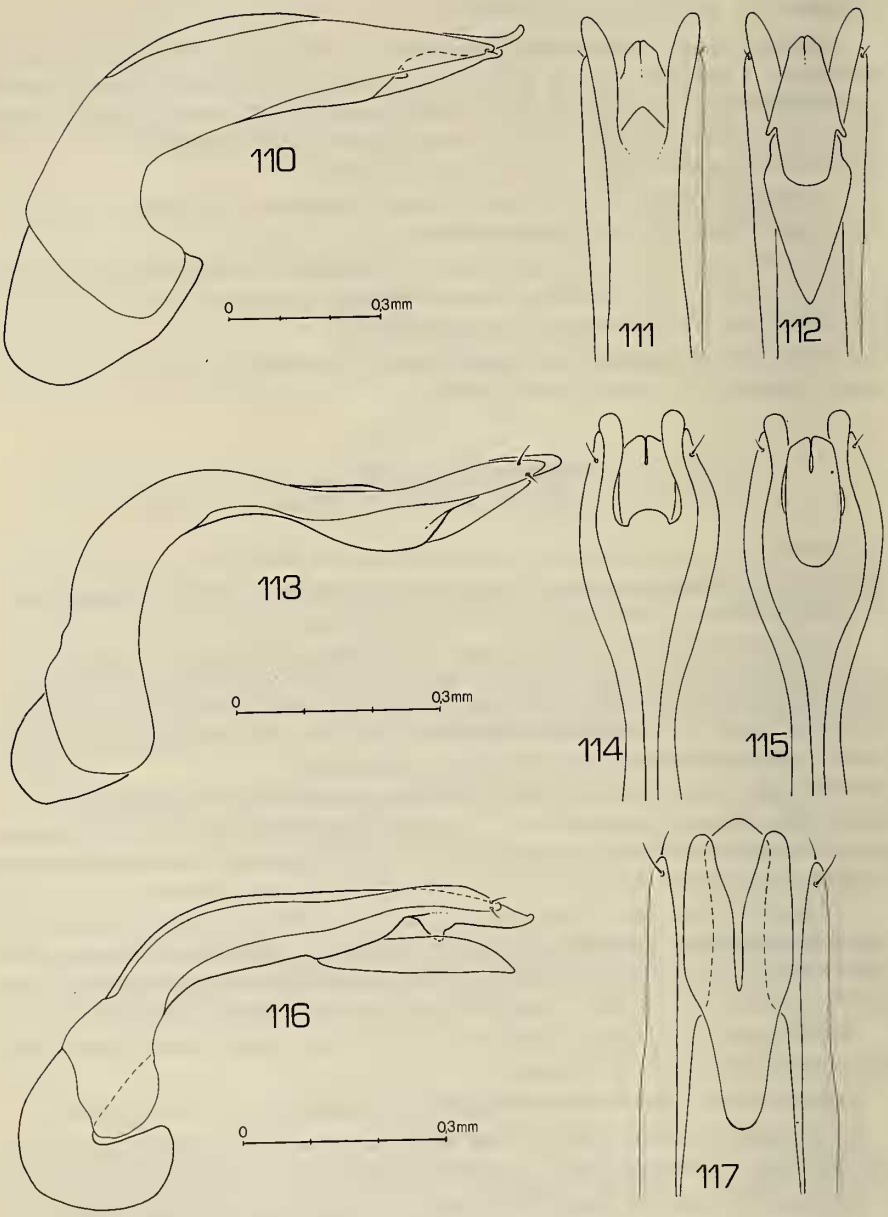
Metathoracic wings absent. Meso- and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femura simple (fig. 58). Tarsal formula: ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 113-115): Aedeagus slender, with proximal part slender and trifid apex; ventral piece bifid; parameres slender, a little increased near the apex.

Spermatheca (fig. 97): Basal part pear-shaped, apical part short and slender.

D i s c u s s i o n : *A. rama* n. sp. is close to *A. maculicolle* Champ., *A. semirufum* Ang. & Dmz., *A. laticorne* Port and *A. grouvellei* Port. It differs from all these species by presence of microsculpture only near the clypeal margin and absence of metathoracic wings.



FIGS 110-117.

Male copulatory organ (lateral view, dorsal and/or ventral view of apex) of: 110-112, *A. maculicolle* Champ.; 113-115, *A. rama* n. sp.; 116-117, *A. brahma* n. sp.

Types: NEPAL, Dobate Ridge, N/E of Barahbise, 2700 m, 7.V.1981, Löbl & Smetana, 1 ♂ holotype N.2799 and 3 ♀ paratypes N.2800-2802 in GM, 1 ♀ paratype N.2803 in AC; same collecting data, 2.V.1981, 2 ♀ paratypes N.2804-2805 in GM, 2 ♀ paratypes N.2806-2807 in AC.

Collecting methods: Sifting dead leaves and mosses in oak-forest.

Agathidium *(s. str.)* **brahma** n. sp.
Figs 98, 103, 116, 117

Length 2,75 mm (holotype ♂ and paratype). Dorsum uniformly reddish-brown; venter dark reddish-brown, paler on mesosternum; antennae testaceous, with segments 9-10 darker; legs testaceous. Microreticulation nearly absent (traces of it on elytra). Very finely and sparsely punctate on head and pronotum.

Head: Punctures very small, spaced from each other by 4-8 times their own diameter. Clypeal line absent; one short longitudinal groove and one dimple at each side of clypeus. Anterior-lateral margins rimmed. 3rd antennal segment 1,5 times as long as the 2nd and longer than 4th + 5th (fig. 103). Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctuation as on head. 1,6 times as broad as head, a little broader than long (W/L = 1,28) and very convex (W/H = 1,4). Anterior margin scarcely bent. Lateral outline broadly rounded. Holotype: length 1,00 mm, width 1,28 mm, height 0,91 mm.

Elytra: Some traces of microreticulation. Punctuation absent. A little broader than pronotum, a little broader than long (W/L = 1,18) and moderately convex (W/H = 1,77). Lateral outline with slight humeral angle. Sutural striae absent. Holotype: length 1,12 mm, width 1,33 mm, height 0,75 mm.

Metathoracic wings present, vestigial. Meso- and metasternum: median carina slight, lateral lines absent, femoral lines incomplete.

Legs: Male hind femora simple. Tarsal formula ♂ 5-5-4, ♀ 5-4-4.

Male copulatory organ (figs 116-117): Aedeagus robust, with hook-like proximal part, lateral margins sinuate and abruptly approached into a broadly rounded tip; big and particularly shaped ventral piece; parameres slender, gently tapered towards apex.

Spermatheca (fig. 98): Basal part subspherical, with a tubercule towards the duct connection; apical part short, with rounded apex.

Discussion: *A. brahma* n. sp. is close to *A. andrewesi* Port., from which it differs unclearly on the basis of the external characters. The two species are separated by male copulatory organ.

Types: NEPAL, Malemchi, 2800 m, 14.IV.1981, Löbl & Smetana, 1 ♂ holotype N.3002 in GM, 1 ♀ paratype N.3003 in AC.

Collecting methods: Sifting dead leaves, mosses, grasses and decaying wood at base of a wall.

INDEX

REFERENCES

Angelini, F. & L. De Marzo. 1981. Reports of *Agathidium* from Himalaya: expeditions of Basel Natural History Museum and Prof. H. Franz (Coleoptera, Leiodidae). *Entomol. basiliensia* 6: 187-294.

— 1983*a*. New species and records of the genus *Agathidium* Panzer 1797 from Nepal (Insecta: Coleoptera: Leiodidae). *Senckenberg. biol.,* 64: 157-173.

— 1983*b*. New species and records of *Agathidium* from Himalaya: expeditions of Basel Natural History Museum (Coleoptera, Leiodidae). *Entomol. basiliensia* 8: 153-164.

— 1983*c*. Anisotomini nuovi o poco conosciuti reperiti in Nepal e Kashmir dal Prof. H. Franz (Coleoptera, Leiodidae). *Entomologica,* 18: 5-16.

— 1984*a*. Reports of *Agathidium* from Darjeeling: expedition 1978 of Geneva Natural History Museum (Coleoptera, Leiodidae). *Revue suisse Zool.* 91: 545-562.

— 1984*b*. *Agathiodium* from India collected by Dr. Gy. Topál (Coleoptera, Leiodidae). *Annls Hist. nat. Mus. natn. hung.* 76: 165-168.

Champion, G. C. 1924. Some indian Coleoptera (14). *Entomologist's mon. Mag.* 60: 159-172.

Hatch, M. H. 1929. Coleopterorum catalogus, pars 105: Leiodidae, Clambidae. W. Junk, *Berlin,* pp. 1-100.

Hlisnikovsky, J. 1964. Monographische Bearbeitung der Gattung *Agathidium* Panzer *(Coleoptera). Acta ent. Mus. natn. Pragae,* suppl. 5: 1-255.

— 1972. Beitrag zur Kenntnis der Liodidae (Coleoptera) von Ceylon. *Mitt. schweiz. ent. Ges.* 45 (1-3): 131-149.

Portevin, G. 1922. Notes sur quelques Silphides et Liodides de la collection Grouvelle. *Bull. Mus. natn. Hist. nat., Paris,* pp. 54-58.